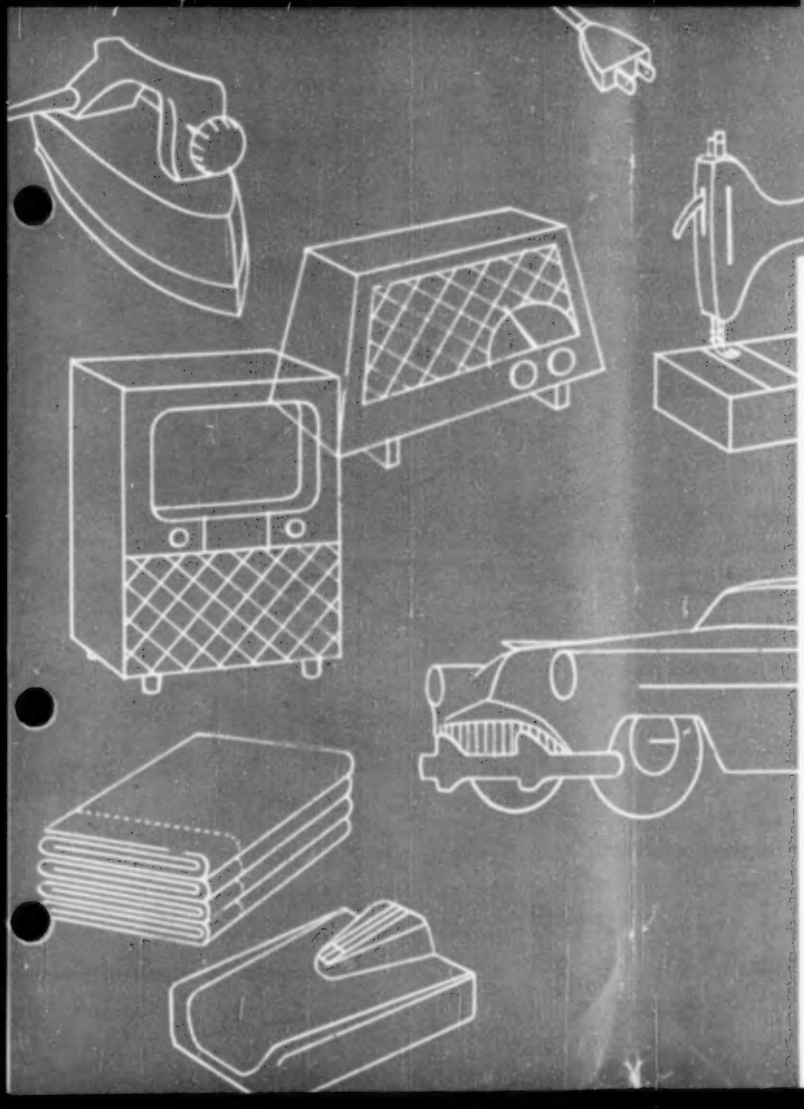
AUTOMOBILE ISSUE

30 CENTS

Consumers' Research

BULLETIN



JUNE 1954

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Buying Information on 62 Cars, 6 Station Wagons

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The "Horsepower Race"

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Automatic Transmissions

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Consumers' Research Bulletin

OFF THE EDITOR'S CHEST

THE American automobile is often regarded as the symbol of our way of life—a product of enlightened and advanced engineering achievement and style in design. The car is a household essential not only for the family but for its individual members as well, for one of the first major purchases that a teen-ager saves his money for is a "jalopy" of some sort. Although visitors from abroad marvel at the number of automobiles on the road in this country, they would perhaps be amazed also at the number of complaints many auto owners will make about their own particular cars to any interested audience.

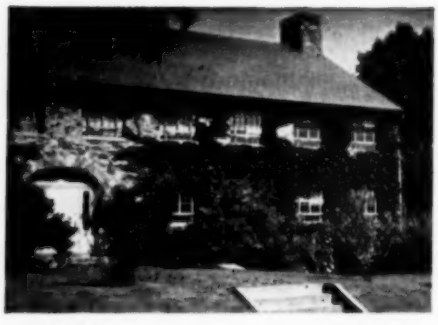
In spite of glowing advertisements and lavish praise over the radio and television networks for the glamour, style, and efficient performance of this and that car, even adverse criticism gets into print occasionally, reminding us that change is not always progress.

One former associate professor of automobile engineering, for example, admits that the present-day automobile engine is a stronger, smoother-running, and more dependable product than engines of earlier years, and today's tires are softer, the seats more comfortable, and the gearshifting easier or almost completely eliminated. Yet he questions whether the combination of the so-called improvements makes for a convenient, safe, and reasonably simple means of transportation—and, he might have added, economical.

Today's car with a high-powered engine that can be driven much faster than is legal under most state laws has been called the number one killer on the road. As a matter of fact, the constant advertising emphasis on engine horsepower, which has been climbing higher and higher, has puzzled even some of the engineers. In the last few years, some increase in horsepower has been essential, according to one expert, to provide extra output to cover the power losses in automatic transmissions, but the present capacity of automobile engines has far exceeded the requirements of any normal or reasonable use.

Then there is the emphasis on gadgets, push-button and automatic devices which at least one consumer would trade for a car that had good sturdy parts, a good paint job, fenders that give access to the wheels, and are not part of the car body, and no fancy chrome trim that requires frequent attention to keep it looking bright and shiny. As another critic put it, American

(*Continued on page 29*)



JUNE 1954 **VOL. 33 • NO. 6**

Consumers' Research functions to provide unbiased information on goods bought by ultimate consumers. For their benefit (not for business or industry) and solely with the funds they provide, CR carries on tests and research on a wide variety of goods, materials, and appliances, and publishes the findings in CR Bulletin. Consumers' Research is a non-profit institution, and is organized and operates as a scientific, technical, and educational organization.

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The Consumers' Observation Post

COLOR TV SETS are not expected to be available in considerable numbers until mid-1955. By that time a 19-inch-tube (17-inch screen) receiver, expected to be in production about July 1954, will be widely available. Prices of the color sets will be high, and The Wall Street Journal notes that consumers are currently reluctant to pay the price (over $1000) for the 12-inch models put out by Westinghouse. Since present programs for color telecasting amount to only about two hours a week, sales of black and white television sets are reported to be picking up. Consumers have apparently decided that color TV may not be worth waiting for, as they at first thought it would be.

* * *

CHEMICAL WEED KILLERS such as 2,4-D sprays are effective in ridding lawns of dandelion, plantain, dock, bur clover, pennywort, and several other weeds, according to William A. Harvey, weed control specialist on the Davis campus of the University of California. Mr. Harvey suggests that weeds are killed more easily during the young, growing stage and points out that mature weeds and those growing in deep shade are often difficult to control. He suggests that four to five gallons of spray per 1000 square feet of lawn applied with a garden sprayer will usually suffice. Mowing the treated lawn should be delayed several days or a week after spraying, and sprinkling should be held off for at least 12 hours.

* * *

THE NEW VINYL FLOOR COVERINGS should not be confused with floor coverings that are essentially linoleum with a touch of vinyl applied. That is the warning from the Sloane-Delaware Floor Products Company which asserts that the vinyl-linoleum combination floor coverings have less flexibility and crack more easily; the colors are less clear; they are less resistant to abrasion and the effect of strong alkali: and they deteriorate with age. The vinyl-rubber combinations are held to have less resistance to discoloration from light; less resistance to abrasion; and they are harmed by grease and solvents. The consumer in purchasing a vinyl product should make certain that it is all vinyl rather than one which has merely enough to justify the use of the name on the label.

* * *

CATERING TO THE "SWEET TOOTH" of children is a contributing factor to dental decay. That is the considered opinion of W. Philip Phair, D.D.S., Secretary, Council on Dental Health, American Dental Association. Dr. Phair points out that the high and frequent sugar consumption in soft drinks, candy, jams, sweet desserts, and sweet snacks constitutes a major dental health hazard. Parents and school administrators, in his opinion, have a responsibility in seeing to it that sweets are not used as a convenient substitute for more nutritious foods.

* * *

SOMETHING NEW IN THE STUDY OF HOME ECONOMICS has been introduced in New York City. Dr. Anna M. Dooley, director of home economics for the New York City Board of Education, in a recent speech gave a brief outline of the current program for using in school courses modern appliances similar to those found in homes in the school neighborhood. Classes in the proper use of the equipment enable the children to help their mothers, and even the boys take an interest in running home equipment. Classes are also given in adult evening courses for those who wish to acquire skills in running home appliances. Dr. Dooley reported that there was much more interest in this subject than in family relationships or home management formerly offered as home economics courses.

THE SANITARY QUALITY OF CRACKED AND CUBED ICE used in iced drinks in public eating places and soda fountains has come under the scrutiny of V. D. Foltz, Professor of Bacteriology at Kansas State College. After examining a number of samples both crushed and cubed, Professor Foltz found that only 13 percent of the samples were of satisfactory quality judged by standards used for public water supplies. In general, he found that the same conclusion applied to automatically frozen cubed ice dispensed in commercial establishments. Just what caused the contamination found in the crushed ice when it reached the consumer was not determined, but among the sources of possible contamination Professor Foltz suggested the sawing and grinding equipment, containers in which the ice was transported, and the practices used in handling the ice. Samples of ice from automatic freezers in hospitals were found to be free from contamination.

* * *

INTEREST IN PRIZE CONTESTS is so widespread that various services have sprung up designed to aid ambitious contestants. Before spending hard-earned money for the services of such aids, it is wise to check with local Better Business Bureaus or the National Better Business Bureau (Chrysler Building, New York City). In one particular case it was pointed out that the advertising material was significantly free from any claims that those offering the services had won any contest or that any clients had won contests on the basis of the help rendered by the agency.

* * *

PERSPIRATION ODORS can be successfully eliminated by the use of a potent anti-bacterial substance such as hexachlorophene. The use of hexachlorophene in a detergent base will abolish perspiration odor for more than 18 hours in most persons, according to a study by Dr. Walter B. Shelley, Dr. Harry J. Hurley, and Dr. Anna C. Nichols, of the University of Philadelphia. The researchers also found that shaving the underarm hair plus the administration of a substance such as hexachlorophene were most effective in preventing "underarm odor." They reported that certain aluminum salts had deodorant activity, but that there was no significant reduction in sweating following the use of such preparations. The researchers attributed this phenomenon to the fact that the profuse secretions washed away the aluminum compound before it could be effective. They found no odor reduction in five subjects who took daily 600 mg. oral doses of chlorophyll for seven days, as compared with the underarm odor before administration of the drug.

* * *

ZIPPERS SAID TO BE SNAGPROOF have been developed that are expected to make their appearance in the men's wear field in another year, but they will be found in some women's dresses this spring. We shall be interested in hearing from subscribers as to whether the new zippers are really effective in releasing entangled fabric as promised.

* * *

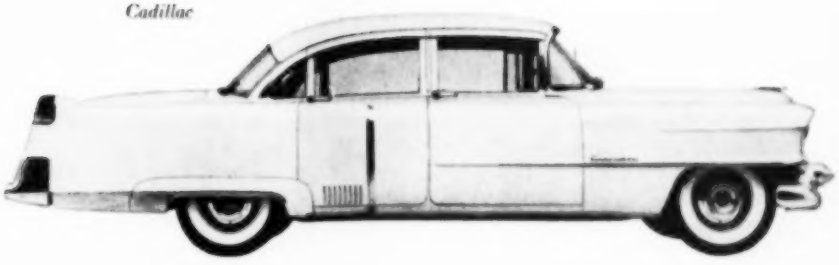
THE CURRENT EFFORT OF THE AMERICAN STANDARDS ASSOCIATION to enlist the cooperation of the textile trade in extending L-22 standards for rayon and acetate to include other fibers has received the support of the editor of Modern Textiles magazine. As he observingly points out, the consumer during the past 12 years has been the victim of many bad textiles and has experienced much disappointment from the so-called miracle fibers. It is his view that the man-made fibers industry and the textile industry as a whole cannot make progress without offering the consumer some substantial guarantee of quality and performance. Consumers can aid the efforts of the enlightened sections of the textile trade by asking each time they make a textile purchase whether the item meets the A.S.A. L-22 specifications.

* * *

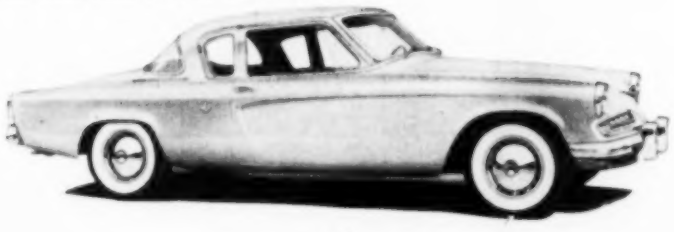
THE MANUFACTURER OF RONSON CIGARETTE LIGHTERS, according to a recent announcement, is scheduling a heavy advertising campaign for 1954 which will include two new editorial approaches, an etiquette column by Emily Post in the Ladies' Home Journal and a teen-age advice column in Seventeen.

(The continuation of this section is on page 39)

Cadillac

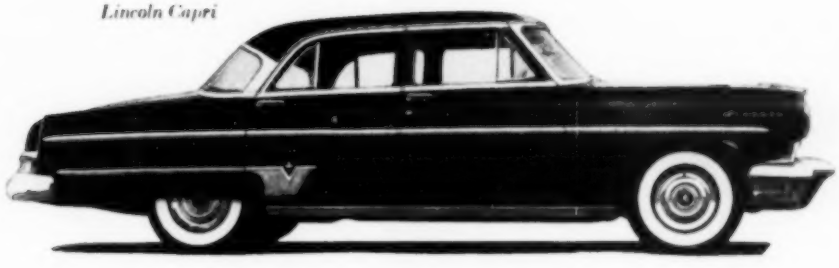


Studebaker Commander Starlight Coupe



Automobiles for 1954

Lincoln Capri



THE selection and purchase of a new automobile present a momentous decision for most families, for there are many things to be considered. Some of these are overlooked until after the car has been purchased, when it is too late to do much if anything about it—for once you have signed on the dotted line, the car, good or bad, is yours, and if it is bad you are stuck with it. Some consumers think that a dealer should stand ready to exchange an unsatisfactory car of a given make and model for a new one, but the dealer will certainly not do this, no matter how unsatisfactory the car may be or how justified the customer's complaints may seem to be. New cars are guaranteed for 90 days or 4000 miles, but such a guarantee suffers by comparison with other items, such as many large electrical appliances, which are guaranteed for 1 year, certain mechanical units up to 5. Car guarantees are far from liberal for an item involving great risks of poor or substandard performance and costing $2000 to $3000 or more

The value of the guarantee actually given is in any event pretty uncertain, at best. It provides only for replacing parts that have proven defective, in the manufacturer's opinion, but many defects do not show up until long after the guarantee period has expired. Consumers have learned to their sorrow that an unwise purchase of an automobile can present exceedingly costly and time-consuming problems, if one does try to have all the car's defects corrected.

The most important matter to be decided is the price class in which your selection is to be made. If you want to keep up with or outdo the Joneses, you will buy in their or a higher price class, but if you want to get the most value for your money, you should carefully consider exactly what a higher-priced car has to offer that would be worth the additional expenditure to you. There is not a great deal

of difference in the interior size of full-size cars; all will seat six passengers of normal size with comfort; none provides a great deal more comfort or very superior riding qualities, unless you are one who wants the best, and are quite willing to pay five hundred or a thousand dollars to get a moderate amount of additional luxury, appearance, comfort, and gadgetry. In a higher-priced car, you are likely to get a more powerful engine quieter in operation at high speeds, better upholstery, more weight, and the prestige that goes with owning a car in a higher-priced bracket. You will not necessarily obtain better riding comfort, or a better paint job, or a higher degree of safety on the road, but you can be pretty sure repair costs will be higher, perhaps a great deal higher. Replacement of a *Cadillac* front fender crumpled in a minor accident will cost more than double the charge for a similar repair on a low-priced car. Depreciation on the high-priced car will be much higher, and miles per gallon of gasoline usually, though not always, a good deal lower. Even the car license or registration will cost more in some states, for the more expensive car.

Ford, General Motors, and Chrysler produced in 1953 about 90 percent of the cars made. (The three brands, *Ford*, *Chevrolet*, and *Plymouth*, alone constitute about 54 percent of the total sales.) This, unfortunately, gives dealers for these three big producers a sort of a monopoly in the control of used-car prices, for in general the trade-in values allowed by Ford, Chrysler, and General Motors dealers for cars made by the independent manufacturers are much lower than for cars of their own makes. The prices which are given in the used-car guides that most dealers follow are based on reports from a large number of dealers, from which average turn-in and resale values are determined. This works out badly for the owners of cars made by the four smaller makers; yet some of the "independents" make good cars which in terms of useful car life do not depreciate any more rapidly than the others which have high turn-in value. Those who wish to buy in a higher price class than *Ford-Chevrolet-Plymouth* can often do so at a great saving by buying a good used, one-year-old, car, made by one of the "independents," which will have dropped much further below its initial new price than a corresponding big-selling car in the medium- or high-priced group.

The cheaper de luxe models give more value for the money than the "super de luxe" models, but strangely enough most Americans seem to *prefer* the "super de luxe" models, while at the same time complaining about excessively high prices for cars. It is said that *Chevrolet's* most expensive 4-door sedan, the *Bel Air Powerglide*, $2062 f.o.b. factory, accounts for 60 percent of *Chevrolet* sales, while less than 10 percent of the lowest-price model are sold to private owners.

At the present time we have a buyers' market, and this is likely to continue for some time. This means that the consumer who wants the best deal possible can gain by "shopping around." When no trade-in is involved, it is not hard to find a regular franchised dealer who will cut the price of a new car from one to three or four hundred dollars, possibly even $500, below list. When a car is to be traded in, the amount different dealers offer is likely to vary widely—depending upon the make of car to be purchased and the one being offered for turn-in—and it is quite common for dealers to offer more for the used car than it can be resold for, in order to make a high-profit sale of the new car. In effect, the over-allowance on the car being turned in is equivalent to a substantial discount on the new car, but the new car is billed at the full list price, so as to maintain the price-prestige of the make and model.

There is a widespread practice known in the trade as "bushing," which consists of leaving a card on a car owner's windshield or sending it by mail, asking if the prospect would take, say, $1800 for his automobile in trade on a new Blank car. The offered price is always very attractive, far in excess of what the trade-in is worth and not a real or binding offer, but a mere sales trick to get a prospective customer into the dealer's place of business, where a sharp salesman can go to work on him. To combat this, the Association of Better Business Bureaus has issued a leaflet from which the following has been reproduced:

> "BEWARE THE BUSHER" If you should be sucker enough to fall for his "bait," he'll push you around with all kinds of excuses and alibis to pressure you into taking a much lower trade-in allowance. Or he'll deliberately mark-up the price of his car and its accessories. You're the victim either way!
>
> 1. Don't fall for dealer's bait. . . . Disregard his insincere offer of a luring trade-in price which you'll never get if you do respond. 2. Contact the car dealer and let him know you're wise to his tricks. 3. Register your complaint with municipal 'authorities or with your Better Business Bureau. 4. Trade only with responsible car dealers who justify your patronage. 5. Don't sign a blank contract under any circumstances.

Now that itemized delivered prices no longer need be posted in dealers' showrooms, some

dealers may pack the delivered price of the new car by increasing, for example, the preparation and conditioning charge by $25 or $50. This enables the dealer to offer that much more for the car being traded in, and the purchaser is more easily sold because he believes he is getting a better price for his car than has been offered elsewhere, when actually his net outlay may be the same or even more.

High vs. moderate horsepower

This year there has been a mad scramble to increase the rated brake horsepower of engines, and about three-quarters of this year's engines are in the horsepower race. No sound engineering reasons have been advanced for this development; it can only be concluded that high horsepower has a potent sales appeal with car buyers. The consumer should not be fooled by the new high-horsepower figures, for they have little relationship to the horsepower actually available *at normal driving speeds*.

The advertised rated horsepower is usually determined on the "bare engine," in the laboratory; when installed in a car, the transmission, rear axle, tires, exhaust system, air cleaner, fan, generator, power steering, pump, power brakes, etc., may reduce the available horsepower of a so-called 200 hp. engine to as little as 120 hp.; even so, this remaining horsepower is obtained only at a speed around 100 miles per hour. The *Chrysler New Yorker Deluxe* has a rated brake horsepower of 235 at 4400 rpm., corresponding to the wholly irrelevant car speed of 110 m.p.h.; at 60 m.p.h. or 2390 engine rpm., the rated brake horsepower is down to 150 hp. for the "bare engine," and it is at approximately this speed of 60 m.p.h. that the maximum torque, or turning effort at the rear wheels, is obtained. Considering the fact that only about 40 horsepower are required to drive a typical car on a level road at 60 m.p.h., what possible reason can there be for supplying a large number of additional horsepower beyond the amount required for occasional use in ascending hills and for emergency acceleration? Most cars with engines having a much lower rated horsepower have ample reserve power for these purposes at moderate driving speeds, and many engines have far higher horsepowers (rated and actual) than are needed.

The arguments advanced by the proponents of more horsepower are that increasing the horsepower has increased the top speed of cars only slightly, and the extra power is provided for use in case the driver gets himself in a tight spot, and needs a big reserve of power to avoid an accident. This is true as far as it goes, but as most of these high-horsepower cars ride as effortlessly and quietly at 70 or more miles per hour as the cars with small engines ride at 50 m.p.h., drivers everywhere tend to drive at higher and higher speeds, and often far exceed the speed limit, without realizing it. As speeds increase, the distances required to brake a car increase according to something approximating the *square* of the speed (that is, *doubling* the speed *quadruples* the stopping distance), and when accidents do occur, high speed makes death or grave injury almost certain to follow. The driver of a high-horsepower car can admittedly take more chances in passing other fast-moving cars than the driver of a car of moderate power, but the point is forgotten that the more power the engine provides, the more the driver is tempted to take the chance of passing under conditions which would not otherwise be possible. If the power of the higher-priced cars were suddenly doubled, it would not increase the safety of their users; it would decrease their safety, because the temptation to use the extra power implies a greatly increased risk of some unforeseen situation developing on the road (and that can always happen) which makes the planned passing impossible and quick stopping or getting back into the traffic line equally impossible because of the great speed attained.

Regardless of any attempt at statistical proof that the highway accident death rate is not increased with the advent of high-horsepower cars, the fact remains that our highways and the congested traffic conditions that beset them are wholly unsuitable for cars of extremely high horsepower, speed, and acceleration, and will become less suitable as time goes on. There are unfortunately many drivers who cannot resist the temptation to utilize the tremendous power available when they feel it can be done without being caught exceeding the speed limit. The Travelers Insurance Companies state in their 1954 Book of Street and Highway Accident Data that in 1953 speed was by far the principal cause of accidents, accounting for 684,000 casualties. This situation is not best corrected by state or federal laws limiting the horsepower of engines or by the installation of governing devices to limit speeds; it should be done by the manufacturers themselves, by voluntarily restricting engine horsepower to values closer to what is actually needed and can be safely used.

Automatic transmissions

The only new transmission this year is the Chrysler *PowerFlite* which is a big improvement over the semi-automatic (*Fluid-Torque, Gyromatic,* etc.) transmission used in previous years. The *PowerFlite* consists of a torque converter and a two-speed planetary gear box of relatively simple design. Starting gear ratios are the same in the "D" (Drive) and "L" (Low) positions so that there is no advantage in starting in Low and moving to Drive to obtain quicker acceleration, as can be done with some other automatic transmissions. An important disadvantage of *PowerFlite* is the lack of a "Parking" position; this leaves the hand brake as the only means for preventing movement of the car when parked. CR does not favor dependence upon a single braking means, considering that a brake may fail, and many will not see to it that a parking brake is kept in safe, fully dependable condition at all times.

Standardization of the control positions and of markings on the lever quadrant is long overdue. Many of the accidents which have occurred with automatic transmissions may well have been the result of the discordant practices of manufacturers in arranging gearshift positions, and the lack of effective lock-out devices to prevent one's accidentally shifting to reverse or park positions when moving forward. It is to be hoped that manufacturers will soon get together and standardize on one basic sequence of gear positions, with extra positions for those cars which have a Park position and two Drive positions. The present arrangements are as follows:

1.	P	N	D	L	R	*Buick, Chevrolet, Studebaker*
2.	P	R	N	Dr	Lo	*Ford, Mercury*
3.	P	N	H	L	R	*Packard*
			Dr			
4.	N	4	3	Lo	R	*Hudson, Nash, Lincoln*
			Dr			
5.	N	1	2	Lo	R	*Cadillac, Pontiac*
6.	N	Dr	S*	Lo	R	*Oldsmobile*
7.		R	N	D	L	*Chrysler, DeSoto, Dodge*

*S on *Oldsmobile* is explained as "Super Performance" and is equivalent to Dr 2.

The main disadvantage of all the above methods except No. 2 and No. 7 is that after one starts the engine with the lever in N (Neutral) or P (Park), it is necessary in making the shift to reverse to pass through forward gear positions. If the car is idling fast, as it commonly is in cold weather with the choke operating, there is danger of the car's jumping forward instead of moving slowly backward as intended. While some argue that it is desirable to have Low next to Reverse to facilitate "rocking" a car out of snow and mud, this can be done almost as effectively when L and R are separated by N and Dr as they are in No. 2 and 7. Method No. 2 appears to us at this time to be the most logical arrangement. (No. 7 is the same except that it does not have the needed P position.) Except for No. 6, all of the shift levers had lock-out devices or stops to prevent the driver from getting into P (Park) or R (Reverse) accidentally. Nevertheless, in CR's opinion these stops or detents should be more positive and require more effort on the part of the driver. No. 6 had no locking device on the quadrant, and it would seem to us it could be dangerous in the hands of an inexpert or flustered driver.

Several of the automatic transmissions have a "kick-down" feature to change to a lower gear and provide quick acceleration for passing another car or for climbing a steep grade. This feature can be highly dangerous unless the driver understands the limitations of his particular transmission, for downshift by kicking down on the accelerator can be accomplished only if the car is traveling below a designated speed. These limitations of one's own particular kick-down mechanism should be determined by trial under safe conditions and not left until an emergency arises at which time the car might fail to give the high acceleration demanded by the circumstances. The speed at which kick down to a lower gear can be made varies from 37 m.p.h. for the *Chevrolet Powerglide* to 70 m.p.h. for the *Cadillac*. The driver of a certain car may pull out of line to pass another car, and find he needs considerably more speed; not realizing he is traveling at a speed *above* that at which a kick down can be made, he pushes hard on the accelerator pedal, only to find the anticipated extra acceleration is not forthcoming. That could cost his life—or the life of others. The "kick down" can get out of order

Oldsmobile Super 88

or adjustment; therefore it is always wise to be sure you can get the additional acceleration you may need before pulling out of line, and don't ever pull out of line or drive across a highway under circumstances that would leave you boxed in and in a crash if the expected high acceleration should not be delivered.

On all cars with automatic transmissions, special precautions must be observed for towing them to avoid costly damage. If the transmissions are operating properly, the cars can be towed at speeds up to or around 30 m.p.h. (*Chevrolet Powerglide*, 45 m.p.h.) for short distances with their transmissions in Neutral. (See your instruction book as to what is safe for your make and model of car.) When the transmission is damaged or out of order, the safe procedure is to have the car towed with the rear wheels raised off the ground or the drive shaft removed.

Overdrive

In parts of the country where the terrain is relatively flat, and where the driver can maintain high speeds over considerable distances, overdrive, which adds about $100 to the price of a car, is usually a worth-while addition to a car having a standard transmission. It is the usual practice to install a numerically higher rear axle ratio on overdrive-equipped cars; for example, 4.56 to 1 instead of 4.1 to 1. When the car is in overdrive, the engine will turn 4.56 x .7 or 3.19 revolutions for each revolution of the rear wheels.

The advantages of overdrive are that it considerably reduces the engine speed for a given car speed; the engine makes about 25 percent fewer revolutions per mile, and gives quieter operation. In third gear (direct drive) on an overdrive-equipped car, the engine will run at a higher speed for a given car speed than on a car without overdrive; this gives better acceleration than a car with the standard-ratio rear axle and standard transmission. Other advantages are reduced gasoline consumption (for example, at a constant speed of 50 m.p.h., the *Hudson Jet* gave 22.4 m.p.g. in overdrive compared to about 18.4 m.p.g. for a similar car in direct drive, equipped with a standard rear axle ratio) and less frequent use of the clutch pedal. (Gears can be changed from first to second and from second to third at speeds below about 25 m.p.h. without using the clutch pedal.) Claims for reduced engine wear should not be given too much weight, for it is not engine speed alone that determines rate of engine wear. The disadvantage of overdrive, especially significant on steep or winding hills in winter, is that with it the car "freewheels" below about 25 m.p.h., creating a hazard in driving because under such conditions there is no braking effect from the engine; this, of course, implies need for earlier replacement of brake linings. Changing from overdrive to direct drive when the car is in motion, as is sometimes necessary on a steep or dangerous hill, will at times present a problem, particularly when there is snow or ice on the road.

General Motors have not made overdrive available for their cars; the overdrive is a patented product of the Borg-Warner Corp. (A popular journal has said that it is a corporation policy in General Motors not to buy transmission units outside the General Motors organization.) Overdrive equipment, however, is available for other makes of standard transmission cars, except *Chrysler*, as optional equipment.

Power brakes

Power brakes are not a new idea, for they have been in use on some cars for several years. This year there has been a large increase in use of power braking. Indeed, one of the two big mail-order houses is now offering a kit at around $40 to permit the car owner himself to install a power-brake mechanism on certain makes of cars. With some power brakes, the distance the brake pedal must be depressed is greatly reduced, and the top of the brake pedal is set on the same level as the top of the accelerator pedal in its "up" position. This design makes it possible to apply the brakes with one less movement of the foot and so is said to shorten the driver's reaction time following his perception of the need for braking. Reaction time, of course, varies widely among different individuals, but if it is reduced only by one-quarter second, the stopping distance from 60 m.p.h. would be reduced by 22 feet or nearly 10 percent. While this would seem to be an important advance from the safety standpoint, this advantage is partly offset by the disadvantage that should the engine stall (which is a fairly common occurrence with automatic transmissions) the vacuum of the power braking system is exhausted after one or two brake applications, and very heavy brake pressure is required to stop the car, too heavy for some users to have safe control of the car in a tight spot. If power brake failure occurs on a grade, the driver should apply the hand brake immediately until the engine is started again. The power brakes as used on *Buick* cars have a valuable (and almost necessary) safety feature consisting of an electric vacuum

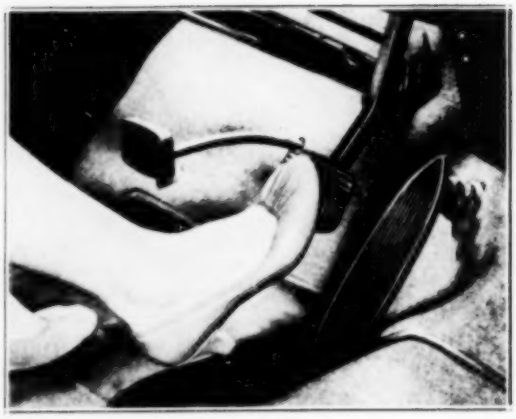
pump which is started by a relay switch to provide braking power whenever the engine stalls or its speed drops below 300 rpm.

On the types of power brakes in which the location of the brake pedal (and hence the brake linkage) are not changed, normal braking is available at all times, even when the engine has stalled.

While the kits intended for installation by the car owner are claimed to be easy to install, CR does not know whether any of these units may be relied upon to provide good and safe braking compared with that of power brakes supplied as regular equipment by the car manufacturer. It is our opinion that any power brake unit bought as an accessory should be installed, if at all, *only by an expert with actual technical and practical experience with the problem*. The procedure followed should be exactly that set forth at the end of the first paragraph under "Power steering" on this page. There is always danger that an improperly made joint in the hydraulic braking system may leak or some other defect may arise which could result in the car's being without any foot brakes at all in an emergency; obviously such a failure could be the cause of a serious accident. In our opinion, a power brake system whose design has not been passed on and carefully checked by the manufacturer of the car upon which it is to be installed is a dubious investment and involves uncertainties that cannot be resolved at this time. We believe this point is equally applicable to *power steering* when purchased as an accessory to be installed on a car already delivered.

Power steering

The subject of power steering in general, and the relative advantages of the two principal types available have caused an ever-increasing amount of discussion among car buyers during the past year. Some form of power steering is now available, either as factory installed or standard equipment on practically all the American-made cars for 1954. It is expected that 15 percent of all cars made in 1954 will be equipped with power steering. Separate units are also available for installation by dealers on cars of earlier years if desired, but CR would not recommend that any such units be installed, until safety requirements have been established and the units accepted and approved by appropriate state authorities. (See discussion of the same problem under "Power brakes.") Certainly if power steering is to be installed on a car already in use, the installation should be carried out by a financially responsible dealer's shop which services the make of car on



New location of power brake pedal, at same distance above toe-board as accelerator pedal, to speed use of the brake.

which the unit is to be installed, and which will, therefore, be concerned both for the selection of the right unit and its proper installation and would, moreover, be available for suit in the event of mechanical or other failure due to poor design or workmanship.

All units offer the same basic advantage; namely, a reduction in the effort required to turn the steering wheel of a car by the use of engine power to do the work, on which the driver only helps a little. Other respects in which the two main types differ are the amount of the reduction of driver effort, the minimum pull necessary at the steering wheel before the power mechanism takes over to aid the driver, the relative safety of the device, whether or not road-feel is retained or almost wholly eliminated, and the amount the steering ratio is reduced, if any, when power steering is added.

The power-assist units made by Saginaw and Bendix principally and used on General Motors, *Lincoln*, *Ford*, *Studebaker*, and some other cars do not help in steering until the driver has exerted a certain minimum pull, usually about three pounds, at the steering wheel rim. Thus, in normal highway driving with few sharp turns, the driver will hardly be aware that he is operating a car with power steering. On *Chrysler*, *DeSoto*, *Dodge*, and *Plymouth* cars (units manufactured by Monroe, Ross, and Gemmer), the steering effort is greatly reduced at all times, by an amount said to approximate 80 percent. The two types give about the same advantages of reduced steering effort in parking, but the *Chrysler-DeSoto* line with lower steering ratios has the advantage for parking, since it requires fewer turns of the steering wheel and thus offers faster steering response.

One potential disadvantage of power steering is the complete loss of "power assist" should the motor stall—stalling is more a problem with automatic transmissions and cars equipped with overdrive, since with these the motor does not necessarily turn whenever the rear wheels are revolving. On those cars in which the same steering ratio is used with or without power steering (see table), steering with a "dead engine" when the power steering is inoperative requires more effort than it would on the same car without power steering. The driver has to exert extra force to make up for the loss of the power-assist action, and if this situation arises when the driver is not expecting it, as it easily might under some circumstances, it could be the cause of a serious accident. On such cars as the *Chrysler* and *DeSoto*, the effort required to turn the steering wheel would be much greater with a dead engine, since these cars have been given a much smaller steering ratio in view of the expectation that the power-assisted steering will do the work. When the power assist is inoperative, therefore, the force required to turn the steering wheel is greatly increased, and under circumstances easily to be imagined, an accident might occur because the driver did not or was not able to turn the wheel as fast as was necessary in a given situation.

The foregoing are points in which power steering contains elements of extra hazard.

Now to the other side of the problem: There can be no doubt that power steering does in some cases decrease the risks of driving; it certainly offers the driver better control of his car in the event of a blowout on either front wheel. It should help in the situation of a driver who has accidently run off the edge of a concrete or other paved road at relatively high speed. The power-steered car can often get back on the road successfully, whereas a car without this feature is likely to get into trouble and skid or crash if a similar turn back to the road from the shoulder is attempted before speed has been considerably reduced.

CR's test drivers were divided in their opinions of the over-all evaluations of the two principal types of steering. Some had a very definite pref-

Data on Steering Mechanisms, With and Without Power Assist

MAKE OF CAR	MAKER OF POWER UNIT	OVER-ALL STEERING RATIO			NUMBER OF WHEEL TURNS, FULL RIGHT TO FULL LEFT	
		Manual	Power		Manual	Power
			1954	1953		
Ford	Bendix	25.3	25.3	——	4.5	4.5
Mercury	Bendix	25.4	25.4	——	5.3	5.3
Nash	Bendix	25.5	25.5	——	3.5	3.5
Packard	Bendix	27.3	22.0	22.5	4.4	3.9
Packard	Bendix	30.9	22.5	——	4.8	3.9
Chrysler 6	Gemmer	25.8	16.2	16.2	5.0	3.0
Chrysler 8	Gemmer	25.8	16.2	16.2	5.5	3.0
DeSoto	Gemmer	25.8	16.2	16.2	5.0	3.0
Plymouth	Monroe	21.1	19.7	——	4.0	4.0
Dodge	Monroe	21.1	20.4	——	4.0	4.0
Hudson	Monroe	20.2	20.2	——	—	—
Nash	Monroe	24.0	24.0	——	3.5	3.5
Kaiser	Monroe	25.0	15.0	——	—	—
Dodge	Ross	22.2	20.4	——	4.0	4.0
Buick	Saginaw	26.7	24.1	26.0	4.5	5.0
Cadillac	Saginaw	—	21.5	25.5	—	4.0
Chevrolet	Saginaw	23.1	22.1	22.1	4.5	
Hudson	Saginaw	25.6	25.6	——	—	—
Lincoln	Saginaw	26.1	21.3	——	4.3	3.5
Oldsmobile	Saginaw	27.5	25.7	25.7	4.8	4.5
Pontiac	Saginaw	25.0	23.3	26.0	4.8	4.8
Studebaker	Saginaw	20.0	20.0	20.0	4.3	4.3
Studebaker	Saginaw	24.0	20.0	——	5.3	4.3

erence for one type, others preferred the other. It is our belief that final decision on this question cannot be made until there has been more experience with power steering on the road, and until there have been more reports to state and other officials of the circumstances of accidents involving failure of steering mechanisms. It was, however, agreed that oversteering and lack of complete control of a car under difficult circumstances must be expected until a driver has become accustomed to the particular type of power steering which is on the car he drives. A danger certainly exists for the driver who may shift frequently or at times from one type of power steering to another because he drives two different makes of cars.

CR's drivers agree that if good engineering design is employed, and the steering geometry of the car is properly maintained (which means that front-end adjustments are correctly and carefully controlled and checked), most drivers of cars in the light and medium weight classes will not need power steering for driving on normal roads, unless they are lacking in muscular strength or must avoid exertion for reasons of health. We think the purchase of power steering, unless for reasons just mentioned, would be ill-advised on *Ford*, *Chevrolet*, and *Plymouth* cars or other cars at the low end of the weight scale (that is, having shipping weights up to 3400 pounds).

Tinted glass

When tinted windshield glass was first made available, we reported that in CR's opinion it was not a desirable addition to an automobile, because the tint reduced visibility of objects under night driving conditions. The glass makers, however, naturally discount this contention; they hold that tinted (heat-absorbing) glass in the windshield affords eye protection against high intensity light in daytime driving, and that this in turn tends to make night vision better. A leading authority on this question, Dr. Paul W. Miles, assistant professor of ophthalmology at Washington University, St. Louis, points out that use of tinted glass in automobile windshields or the wearing of colored glasses at night makes driving dangerous; both expedients reduce visual efficiency, and so increase the accident hazard. Dr. Miles further reports tests that show that visual acuity is decreased markedly by the use of tinted glass for night driving. Normal vision is 20/20. During night driving, visual acuity is 20/32 through colorless glass, 20/34 through light yellow glass, 20/40 through pink glass, 20/46 through green windshield glass, and 20/60 (which is below tolerable driving vision) through the combination of pink glasses and a green glass windshield. As to the effect of tinted glass on resolving power of the eye (ability to distinguish as separate two objects or marks that are close together), Dr. Miles reports the evidence is even more damning. A pair of objects set close together which appear separate at 100 feet through a clear windshield appear single through a green tinted windshield until the distance is decreased to 25 feet. He warns that persons with defective vision, including color blindness, should especially avoid any type of tinted glass for night driving, for the kind of glass that is effective for barring some of the heat rays of the sun during daylight hours is the very kind of glass that does the most to reduce visibility of objects lighted by headlights at night. (Most of the headlights' light energy is concentrated in the region of the spectrum that is cut off by the green-tinted windshield, and thus this light reflected from cars and other objects on or near the road does not reach the driver's eyes.) It is most important that persons who do not have good vision should avoid any kind of tinted glass for night driving.

"Wrap-around" or panoramic windshields

In the May 1954 BULLETIN, page 25, it was stated that CR believed reports that the "wrap-around" or "panoramic" windshields (as used on *Buick*, *Oldsmobile*, and *Cadillac*) may crack when the cars were jacked up, to be in the strictly "unverified rumor" class, and to be given no weight whatever unless conclusive proof is furnished of actual instances of failure. Business Week, in its May 1 issue, reports that a big-city dealer in a high-priced model had recently replaced 15 "wrap-around" windshields "in a less than normal period of time." The trouble was ascribed to jacking or torsion of the frame. CR, however, has not heard of any other citations of actual occurrences of this sort, and does not itself know of any verified instance of a windshield failure of this nature.

12-volt electric systems

These are now used on five makes of cars, *Buick*, *Cadillac*, *Chrysler* (*Crown Imperial* only), *Nash Metropolitan*, and *Oldsmobile*. With the exception of the *Nash Metropolitan*, which is made in England, where 12-volt systems are

universally used, most of the above-named cars have high compression V-8 engines with large carburetors and manifolds, which need the extra power of a 12-volt system; this provides better ignition performance, faster cranking, and higher generator output. The batteries used with 12-volt systems range in capacity from 55 to 70 ampere-hours. A 12-volt 70-ampere-hour battery has almost 30 percent greater energy-storage capacity than a 6-volt 110-ampere-hour battery, and it is believed that the 12-volt battery should have about the same life as a 6-volt battery of comparable grade.

Warning signals vs. ammeters and pressure gauges

Several manufacturers this year have eliminated the ammeter and oil pressure gauge and substituted red signals, which light to warn the driver when the generator is not charging and when the oil pressure is too low. While substitution of such lamp signals for meter and gauge may save the manufacturer a few cents per car, the innovation is an advantage only for those drivers who do not appreciate the importance of watching the instruments on the dashboard or who do not know the significance of their indications.

The light signals have several disadvantages; one is that the bulbs may burn out or the circuit to the bulb become open in some way, in which case the driver will believe that the oil pressure and charging are satisfactory, when either may be functioning incorrectly. It is true that if the red lights fail to come on when the ignition is turned on before the engine is started, it is an indication that the bulb or bulbs have burned out, but that is an unreliable warning, since it is strictly of a negative nature, and requires that the driver be of the sort who is attentive to and would give thought to such detail. The observing driver wants to know not only that his battery is charging but at what rate. From the ammeter's indications, he can, with experience, often judge the condition of the battery and of the regulator.

Moreover, the red light indicator on the generator circuit does not indicate that the battery is being charged, as the user will suppose, but only that the generator is sending current into the battery; thus the battery may be actually discharging at a substantial rate when by the absence of the red light the indication is that charging is going on. (The difference between charging and discharging would be shown unambiguously by an ammeter.) Thus with the battery operating under heavy load (with lights, radio, and heater on), the battery may be running down continuously without any warning to the driver, who will suppose, because the red light is not on, that everything is going properly, and that his battery is being kept fully charged, as it should be.

If the manufacturers want to install warning lights, all well and good, but let them supply these *in addition to* the ammeter and oil pressure gauge; it is a disservice to consumers to omit these essential instruments from the modern car.

Ford Customline

Tread widths

Several subscribers have complained of the poor traction of their cars in ruts, snow, mud, and sand and attribute this to the fact that the tread widths, front and rear, are not the same. A difference in tread does undoubtedly have an adverse effect on traction in some circumstances, but other factors, such as a lower proportion of weight on the rear wheels, and the action of an automatic transmission, which often does not function well under heavy-pulling conditions, are more likely to be responsible than the difference in tread widths, a difference which varies from ½ inch to almost 5 inches. (Only four cars, *Buick Special 40, Buick Century 60, Henry J*, and *Lincoln*, have the same treadwidth, front and rear.)

The tread at the front is governed by frame side-rail width and the clearance necessary for the tire and wheel in turning, while the rear tread is established by the desired width of the rear seat. These widths are often compromised slightly to improve the over-all appearance of the car. Apparently the automobile industry is of the opinion that as long as the differences are not too great, they are of little importance. On most cars, the rear tread is wider than the front. (In *Fords, Nash Rambler*, and *Studebaker*, the front tread is wider than the rear.)

Speedometer and odometer errors

These errors have been given in CR's automobile reports not because we consider them to have any important bearing on the quality of the car, but because we believe subscribers like to know if, for example, when the speedometer reads 60 miles per hour, they are actually traveling 60 m.p.h. and not at 52 m.p.h., or that the odometer tells that they have traveled 300 miles when actually the distance may be only 270 miles—with a corresponding error in indicated miles per gallon of gasoline. Small errors can, of course, be overlooked, but large errors are inexcusable; the manufacturer is actually misleading the consumer by indicating that his car is traveling faster than it actually is and that he is getting more miles per gallon. That the error is not by mere accident is evident from the fact that the errors invariably favor the car, and make it appear to be doing better than it really is, in speed and gasoline mileage. The least manufacturers could do would be to have their speedometers approximately correct, say plus or minus 2 or 3 m.p.h., in the range where most states have set their maximum speed limits, say 50 to 60 miles per hour. One state automatically suspends the driving license for 60 days of anyone caught driving at 75 m.p.h. or faster. It might be supposed that manufacturers have deliberately set their speedometers "fast" in the interest of safety, so that people will think they are driving at 60 when really going slower, but this view is hardly tenable when one considers that car makers are continually increasing the rated horsepower of engines, making it easier for the motorist to exceed safe speeds and legal speed limits. The errors of speedometers and odometers, as used on automobiles, will increase to give higher apparent speeds and greater distances traveled as the tires wear down to a smaller diameter, and a decrease in the rolling diameter of tires caused by underinflation will have a similar effect.

Buick Century 61

The price of this car is about $250 higher than that of the Buick Special; it is CR's opinion that the 52 extra rated horsepower will not be worth the additional expenditure to most users, in view of the fact that the Buick Special reported in the May issue had ample power for normal needs.

A

Buick Century 61. $2678 delivered N.J. *Dynaflow,* $192.50; heater and defroster, $82; radio, $92.50; power steering, $134.50; power brakes, $49.50.

BUICK CENTURY 61 SPECIFICATIONS

Engine

8 cylinders in "V" arrangement, valve-in-head
Bore, 4 in.; stroke, 3.2 in.
Piston displacement: 322 cu. in.
Brake horsepower (rated): 195 at 4100 rpm. (200 with Dynaflow)
Taxable horsepower: 51.2
Compression ratio: 8.0 to 1 (8.5 to 1 with Dynaflow) (manufacturer recommends premium gasoline)
Cylinder head: cast iron
Automatic choke
Crankcase oil capacity: 6 qt.
Oil filter: full-flow type
Cooling system (pressure type): 18 qt. with heater (20 qt. with heater and Dynaflow)

Chassis, etc.

Wheelbase: 122 in.
Over-all length: 206.3 in.
Width: 76.8 in.
Height: 60.5 in.
Gear ratio: 3.9 to 1 (3.4 to 1 with Dynaflow)
Engine revolutions per mile: 2830 (2470 with Dynaflow)
Tires: 7.60 x 15 (adequate)
Brake area: 207 sq. in.
Brake factor: 46 (good)
Frame: channel type side rails, "X" center cross member, box-type front cross member
Minimum road clearance: 6.5 in.
Turning diameter: 42.9 ft.
Front shoulder room: 58 in.
Rear shoulder room: 57 in.
Steering factor: 4.6 (high for car with power steering)

Other details

Battery: 12-volt 60-amp.-hr.
Gasoline tank: 19 gal.
Windshield wipers: vacuum type
Shipping weight: 3785 lb.
Curb weight of car tested: 4183 lb., 54.5% on front (average)

CR'S FINDINGS ON ROAD TESTS

Acceleration times from 0 to 30 m.p.h., 5.4 sec. (good); from 20 to 50 m.p.h., 8.4 sec. (very good); from 40 to 60 m.p.h., 7.8 sec. (very good).

Gasoline mileage under test conditions:[1] at 30 m.p.h., 20.3 m.p.g.; at 50 m.p.h., 16.8 m.p.g.

Riding comfort: although this car had the same body and chassis as the *Buick Special* and weighed only about 70 lb. more, its riding qualities were much better than the *Special.* This could have been due to better adjusted shock absorbers, or tires that were better balanced or not out of round, as some have been to a marked extent, according to information from our readers. Except for slight bouncing of the rear of the car on rough roads, riding quality was good. Power steering was satisfactory except that steering response was slow. For other comments, see *Buick Special.*

Speedometer errors: at indicated speed of 20 m.p.h., actual speed was 19 m.p.h.; at 35 m.p.h., 33.6; at

[1]These are not the same figures as miles per gallon under average road conditions; however, the figure for gasoline consumption at 50 m.p.h. if multiplied by 0.8 or 0.9 will often be close to that obtained in normal driving of an automobile.

50 m.p.h., 48. This speedometer had a much smaller error than that on the *Buick Special*.

Odometer was inaccurate by about 3% (100 miles would be recorded as 103 miles).

Equipment on car tested: Radio, heater, *Dynaflow*, power steering, and power brakes.

OBSERVATIONS AND CONCLUSIONS

The *Buick Century* is essentially a *Buick Special* body and chassis with the *Roadmaster* engine. The *Century* with standard transmission has a slightly lower compression ratio than the *Century* or *Roadmaster* with *Dynaflow*, 8.0 to 1 instead of 8.5 to 1, reducing the maximum rated brake horsepower from 200 to 195. For other comments, see *Buick Special*.

Buick Roadmaster Series 70

A well-appointed, well-constructed car. Acceleration and gasoline mileage slightly better than last year's model.

A

Buick Roadmaster Series 70. $3453 delivered N J.

Dynaflow, power steering, back-up lights, and turn signals are standard equipment. Radio, $92.50 or $142; heater and defroster, $82.

CR'S FINDINGS ON ROAD TESTS

Acceleration times from 0 to 30 m.p.h., 6 sec. (good); from 20 to 50 m.p.h., 8.2 sec. (very good); from 40 to 60 m.p.h., 7.6 sec. (very good).

Gasoline mileage under test conditions[1] at 30 m.p.h., 20 m.p.g.; at 50 m.p.h., 17.6 m.p.g. An improvement over last year's model which gave 18 m.p.g. and 16 m.p.g., respectively.

Riding comfort was good, but the rear coil-spring suspension gave a somewhat bouncy ride on rough pavements and could be quite annoying to the occupants of the car, particularly when braking at low speeds as in city traffic. Cornering ability was good. Power steering was satisfactory, except for slow response (steering ratio, too high). The car body was adequate as to space.

Speedometer errors were unduly high: at indicated speed of 20 m.p.h., actual speed was 18.5 m.p.h.; at 35 m.p.h., 31; at 50 m.p.h., 44; at 60 m.p.h., 53.

Odometer was inaccurate by about 3% (100 miles recorded as 103 miles).

Equipment on car tested: *Dynaflow*, power steering, power brakes, radio, heater, and power-operated positioning of front seat.

OBSERVATIONS AND CONCLUSIONS

The rated horsepower of the engine has been raised from 188 to 200 by redesigning of the combustion chamber and pistons and by the use of a "four-barreled" carburetor. The speedometer is of a new type, long and rectangular, in which a red line moves across a scale graduated from 0 to 120 m.p.h. Had desirable trip mileage indicator. Engine noises and wind noises were low. Visibility, front and rear, good. Some reflections in the windshield from top of dash. Power brakes operated satisfactorily and had the desirable safety feature of providing auxiliary power braking from a motor-driven vacuum pump should the engine stall (see *Buick Special*). The heater, with desirable fresh-air intake on top of the cowl, was good, but its controls were somewhat complex. *Dynaflow* transmission operated satisfactorily, but lack of engine braking action was very noticeable on downgrades (see *Buick Special*). Transmission protected by a lock-out device from being shifted accidentally into reverse or parking while car was in motion (a very advantageous feature). Engine could be started by pushing the car at a speed of approximately 25 m.p.h. The power-positioned front seat had considerable backlash (free play) which was noticeable to occupants to an unpleasant extent whenever the car was sharply accelerated or decelerated.

BUICK ROADMASTER SERIES 70 SPECIFICATIONS

Engine

8 cylinders in "V" arrangement, valve-in-head
Bore, 4 in., stroke, 3.2 in.
Piston displacement: 322 cu. in.
Brake horsepower (rated): 200 at 4100 rpm.
Taxable horsepower: 51.2
Compression ratio: 8.5 to 1 (required premium gasoline)
Cylinder head: cast iron
Automatic choke
Crankcase oil capacity: 6 qt.
Oil filter: full-flow type
Cooling system (pressure type): 20 qt. with heater

Chassis, etc.

Wheelbase: 127 in.
Over-all length: 217 in.
Width: 80 in.
Height: 62.5 in.
Gear ratio: 3.4 to 1
Engine revolutions per mile: 2420
Tires: 8.00 x 15 (overloaded)
Brake area: 219 sq. in.
Brake factor: 44
Frame: channel-type side rails, "X" cross member, box-type front cross member
Minimum road clearance: 6.7 in.
Turning diameter: 43 ft.
Front shoulder room: 59.5 in.
Rear shoulder room: 58.5 in.
Steering factor: 5.4 (high for a car with power steering)

Other details

Battery: 12-volt 60-amp.-hr.
Gasoline tank: 19 gal.
Windshield wipers: vacuum type with booster
Shipping weight: 4250 lb.
Curb weight of car tested: 4560 lb., 53% on front (less than average, desirable)

[1] These are not the same figures as miles per gallon under average road conditions; however, the figure for gasoline consumption at 50 m.p.h., if multiplied by 0.8 or 0.9 will often be close to that obtained in normal driving of an automobile.

Cadillac 62

Cadillac is a fine car as in previous years. It is said to be the only make which is in such demand that it is not available for immediate delivery.

A

Cadillac 62. $4008 delivered Pa. *Hydra-Matic*, power steering, back-up lights, and windshield washer are standard equipment. Heater, $120; radio, $124; *Autronic Eye*, $45.

CR'S FINDINGS ON ROAD TESTS

Acceleration times from 0 to 30 m.p.h., 4.8 sec.; from 20 to 50 m.p.h., 6.9 sec.; from 40 to 60 m.p.h., 6.2 sec.; *all very good* (not significantly different from last year's model in spite of the increased horsepower, and a rear axle ratio more favorable from the acceleration standpoint).

Gasoline mileage under test conditions:[1] at 30 m.p.h., 23.1 m.p.g.; at 50 m.p.h., 19.2 m.p.g.; very good for a heavy car of high horsepower.

Riding comfort was excellent under all conditions. Cornering ability at high speeds was also excellent. Power steering operated satisfactorily. (Steering factor this year has been reduced from 6.0 to 4.8, giving quicker response, i.e., fewer turns of steering wheel to make a given turn.)

Speedometer errors: at indicated speed of 20 m.p.h., actual speed was 21.5 m.p.h.; at 35 m.p.h., 36; at 50 and 60 m.p.h., speedometer was approximately correct. **Odometer** was approximately correct.

Equipment on car tested: Radio, heater, power brakes, *E-Z Eye* glass, *Autronic Eye*, fog lamps, 8.20 x 15 tires, 3.36 to 1 rear axle ratio.

CADILLAC 62 SPECIFICATIONS

Engine

8 cylinders in "V" arrangement, valve-in-head
Bore, 3-13/16 in., stroke, 3-5/8 in.
Piston displacement: 331 cu. in.
Brake horsepower (rated): 230 at 4400 rpm.
Taxable horsepower: 46.5
Compression ratio: 8.25 to 1 (required high-test gasoline)
Cylinder head: cast iron
Automatic choke
Crankcase oil capacity: 5 qt.
Oil filter: partial-flow type
Cooling system (pressure type): 22 qt. with heater

Chassis, etc.

Wheelbase: 129 in.
Over-all length: 216.5 in.
Width: 80 in.
Height: 62 in.
Gear ratio: 3.07 to 1 (3.36 to 1 optional)
Engine revolutions per mile: 2180 (2390)
Tires: 8.00 x 15 (overloaded)
Brake area: 212 sq. in.
Brake factor: 41
Frame: channel section side rails, "I" beam, "X" member
Minimum road clearance: 6.2 in.
Turning diameter: 45 ft.
Front shoulder room: 59 in.
Rear shoulder room: 59 in.
Steering factor: 4.8 (high for car with power steering)

Other details

Battery: 12-volt 55-amp.-hr.
Gasoline tank: 20 gal.
Windshield wipers: vacuum type
Shipping weight: 4370 lb.
Curb weight of car tested: 4640 lb., 52% on front (less than average, desirable)

OBSERVATIONS AND CONCLUSIONS

Cadillac now ranks second to *Chrysler* in the horsepower race with a rated horsepower of 230 at 4400 rpm. (an increase of 20 over last year). Wheelbase has been increased from 126 to 129 in. Last year the *Cadillac* had such effective brakes that it was felt by CR that addition of power brakes would be a needless luxury. Now *Cadillac* has reduced the brake area from 259 sq. in. to 212 sq. in. (18%). While the power brakes operated satisfactorily on the car tested, in CR's opinion last year's brakes with their larger area and without the power assist were to be preferred. The *Hydra-Matic* transmission on this car functioned very smoothly. Engine and transmission noises were low, but there were some wind noises which appeared to come from the hinge sides of the front doors. Two separate heaters and blowers deliver heated fresh air to front and rear compartments, but blowers must be operated when heat is to be provided (not the most desirable arrangement).

Fords

This year the Fords are likely to give Chevrolet stiff competition. The Fords are good-looking cars with no serious faults. For a more detailed general judgment on Fords, see "Recommendations in nine price groups" on page 28.

A

Ford 6 Customline. $1922 delivered N.J. Radio, $89 or $99; heater and defroster, $49 or $78; *Fordomatic* transmission, $184; overdrive, $110; turn indicators, $18.

CR'S FINDINGS ON ROAD TESTS

Acceleration times from 20 to 50 m.p.h., 12.9 sec. (average); from 40 to 60 m.p.h., 10.0 sec. (average); somewhat better than *Chevrolet 210*.

Gasoline mileage under test conditions:[1] at 30 m.p.h., 23.9 m.p.g.; at 50 m.p.h., 19.1 m.p.g.; not significantly different from *Chevrolet 210*.

Riding comfort was good but not outstanding; *Ford 6's* riding qualities were about the same as *Chevrolet's*. General roadability and stability on curves were very good. Steering, with the ball joint front suspension, was satisfactory but not judged better in so far as concerns ease of steering than other cars in this price class with the usual front suspension. If the ball

[1]These are not the same figures as miles per gallon under average road conditions; however, the figure for gasoline consumption at 50 m.p.h., if multiplied by 0.8 or 0.9 will often be close to that obtained in normal driving of an automobile.

joint suspension were as good as claims seem to imply, there would seem to be little reason for the maker to offer power steering, at extra cost.

Speedometer errors: approximately correct at 20 m.p.h.; at indicated speed of 35 m.p.h., actual speed was 33.8 m.p.h.; at 50 m.p.h., 47. **Odometer** was inaccurate by about 3% (100 miles recorded as 103 miles).

Equipment on car tested: Heater, turn signals, oil bath air cleaner; rear axle ratio, 3.9 to 1.

OBSERVATIONS AND CONCLUSIONS

Rated horsepower of this engine has been increased from 101 at 3500 rpm. to 115 at 3900 rpm., compression ratio increased from 7.0 to 1 to 7.2 to 1, and there are several refinements over last year's engine. There is ample room in the engine compartment, making repairs relatively easy, compared with many other cars. Instruments were well arranged, well illuminated, well identified. The location of the speedometer above the dash was good, but the transparent plastic hood enclosing the speedometer, designed to admit light to the dial in the daytime and improve readability, was in CR's opinion of doubtful value. In fact, when driving into the sun, readability of the instrument was reduced. The omission of ammeter and oil pressure gauge and replacing these with red warning signals is considered definitely undesirable (see page 13, columns 1 and 2). Vision to front and rear, good. Some reflection from hood of speedometer in the windshield when sun was high. There were also faint double images of bright oncoming headlights at night, in the windshield, but these were not considered particularly objectionable.

FORD 6 CUSTOMLINE SPECIFICATIONS

Engine

6 cylinders, valve-in-head
Bore, 3.62 in., stroke, 3.6 in.
Piston displacement: 223 cu. in.
Brake horsepower (rated): 115 at 3900 rpm.
Taxable horsepower: 31.5
Compression ratio: 7.2 to 1
Cylinder head: cast iron
Manual choke
Crankcase oil capacity: 4 qt.
Oil filter: full-flow type
Cooling system: 16 qt. with heater

Chassis, etc.

Wheelbase: 115.5 in.
Over-all length: 198.5 in.
Width: 74.2 in.
Height: 62.3 in.
Gear ratio: 3.90 to 1 (4.1 to 1 optional and overdrive, 3.31 to 1 with Fordomatic)
Engine revolutions per mile: 2920 (3070 with 4.1 to 1 gear ratio, 2150 with overdrive, 2490 with Fordomatic)
Tires: 6.70 x 15 (overloaded)
Brake area: 174 sq. in.
Brake factor: 44
Frame: box section side rails, 5 cross members, "K" bracing
Minimum road clearance: 6.6 in.
Turning diameter: 41.2 ft.
Front shoulder room: 54.8 in.
Rear shoulder room: 54.8 in.
Steering factor: 4.3

Other details

Battery: 6-volt 90-amp.-hr.
Gasoline tank: 17 gal.
Windshield wipers: vacuum type
Shipping weight: 3174 lb.
Curb weight of car tested: 3340 lb., 56.5% on front (about average)

A

Ford 6 Customline Fordomatic. $2106 delivered N.J.

Acceleration times from 0 to 30 m.p.h., 8.8 sec. (below average); from 20 to 50 m.p.h., 11.3 sec. (average); from 40 to 60 m.p.h., 11.1 sec. (average). Acceleration was not as good as the comparable *Chevrolet Powerglide* which gave 6.9 sec. in the 0-30 m.p.h. range, 9.5 sec. in the 20-50 m.p.h. range, and 10.6 in the 40-60 m.p.h. range.

Gasoline mileage under test conditions:[1] at 30 m.p.h., 23.6 m.p.g.; at 50 m.p.h., 18.6 m.p.g. Only slightly less than the figures for the *Ford 6* with standard transmission.

For comments and specifications, see *Ford Customline 6*.

Equipment on car tested: Radio, heater, *Fordomatic* with 3.54 to 1 rear axle ratio, power steering, power brakes, power windows and seat.

A

Ford V-8 Customline. $2022 delivered N.J. Radio, $89 or $99; heater and defroster, $49 or $78; *Fordomatic* transmission, $184; overdrive, $110; turn indicators, $18.

CR'S FINDINGS ON ROAD TESTS

Acceleration times from 20 to 50 m.p.h., 12.1 sec. (average); from 40 to 60 m.p.h., 8.9 sec. (good). Somewhat better than last year's car, which gave 13.7 sec. and 10.7 sec., respectively.

Gasoline mileage under test conditions:[1] at 30 m.p.h., 21.5 m.p.g.; at 50 m.p.h., 16.6 m.p.g., not good, by comparison to *Chevrolet 210*, which gave 20 m.p.g. at 50 m.p.h.

Riding comfort: See *Ford 6 Customline*.

Speedometer errors: at indicated speed of 20 m.p.h., actual speed was 19.6 m.p.h.; at 35 m.p.h., 33.2; at 50 m.p.h., 46.6; at 60 m.p.h., 55. **Odometer** was inaccurate by about 2% (100 miles recorded as 102 miles).

Equipment on car tested: Radio, heater, turn signals, oil bath air cleaner, 4.1 to 1 rear axle ratio.

OBSERVATIONS AND CONCLUSIONS

Improvements on the 1954 models consist mainly of

[1]These are not the same figures as miles per gallon under average road conditions; however, the figure for gasoline consumption at 50 m.p.h., if multiplied by 0.8 or 0.9 will often be close to that obtained in normal driving of an automobile.

FORD V-8 CUSTOMLINE SPECIFICATIONS

Engine

8 cylinders in "V" arrangement, valve-in-head
Bore, 3.5 in.; stroke, 3.10 in.
Piston displacement: 239 cu. in.
Brake horsepower (rated): 130 at 4200 rpm.
Taxable horsepower: 39.2
Compression ratio: 7.2 to 1
Cylinder head: cast iron
Manual choke
Crankcase oil capacity: 5 qt.
Oil filter: full-flow type
Cooling system (pressure type): 21 qt. with heater

Chassis, etc.

See Ford 6 Customline

Other details

Battery: 6-volt 90-amp.-hr.
Gasoline tank: 17 gal.
Windshield wipers: vacuum type
Shipping weight: 3271 lb.
Curb weight of car tested: 3460 lb., 57.5% on front (above average)

an entirely new V-8 engine with overhead valves, rated at 130 hp. at 4200 rpm. (an increase of 20 hp. over last year's model), and a "ball joint" front suspension. Except for the V-8 engine, this car is the same as the *Ford 6*. Handling qualities were about the same. Only noticeable differences were in somewhat better accelerating ability, and lower miles per gallon of gasoline. For further comments, see *Ford 6 Customline*.

A

Ford V-8 Customline Fordomatic. $2206 delivered N.J. Radio, $89 or $99; heater and defroster, $49 or $78.

CR'S FINDINGS ON ROAD TESTS

Acceleration times from 0 to 30 m.p.h., 5.8 sec. (good); from 20 to 50 m.p.h., 10 sec. (good); from 40 to 60 m.p.h., 9.8 sec. (good).

Gasoline mileage under test conditions:[1] at 30 m.p.h., 19.5 m.p.g.; at 50 m.p.h., 16.3 m.p.g.

Riding comfort: See *Ford 6 Customline*.

Speedometer errors: at indicated speed of 20 m.p.h., actual speed was 19 m.p.h.; at 35 m.p.h., 33.5; at 50 m.p.h., 46. **Odometer** was inaccurate by about 3% (100 miles recorded as 103 miles).

Equipment on car tested: heater, *Fordomatic* transmission with 3.54 to 1 rear axle ratio, turn signals.

OBSERVATIONS AND CONCLUSIONS

The *Fordomatic* transmission operated satisfactorily; except for slightly better acceleration in the 20 to 50 m.p.h. range, results as to acceleration and miles per gallon under test conditions were not significantly different from those obtained on the same model with standard transmission and 4.1 to 1 rear axle ratio (miles per gallon would likely be less under normal driving conditions, with the automatic transmission). The shift quadrant was not illuminated and therefore presented a problem in night driving. Provision was made to discourage accidental shifting into Park, Reverse, or Low. The engine could be started only with shift lever in neutral. The car had good engine braking in "Lo" gear when descending steep hills. If the transmission becomes inoperative, the car must be towed with the rear wheels off the road, or the drive shaft disconnected. The engine could be started by pushing the car to a speed of about 20 m.p.h. with transmission in "Lo" (Low). ◀ For other conclusions and for other specifications on this car, see *Ford V-8* and *Ford 6 Customline*.

[1] These are not the same figures as miles per gallon under average road conditions; however, the figure for gasoline consumption at 50 m.p.h. if multiplied by 0.8 or 0.9 will often be close to that obtained in normal driving of an automobile.

Lincoln Capri

A very satisfactory car, which had somewhat better handling qualities than the Cadillac 62 (especially in city traffic driving), but not as good acceleration or fuel economy.

A

Lincoln Capri. $3846 delivered Pa. *Hydra-Matic* drive, back-up lights, and turn indicating lights are standard equipment. Radio, $132; heater, $121; power steering, $157; power brakes, $43; power seat plus electric window lifts, $178.

CR'S FINDINGS ON ROAD TESTS

Acceleration times from 0 to 30 m.p.h., 5.0 sec. (good); from 20 to 50 m.p.h., 9.2 sec. (good); from 40 to 60 m.p.h., 7.1 sec. (very good).

Gasoline mileage under test conditions:[1] at 30 m.p.h., 19.5 m.p.g.; at 50 m.p.h., 15.8 m.p.g.; low in comparison with *Cadillac 62*.

Riding comfort was excellent under all conditions. Cornering ability was also excellent. Power steering operated satisfactorily, but when engine was stalled, steering effort was much greater than for a typical conventional steering system.

Speedometer errors: at indicated speed of 20 m.p.h., actual speed was 18 m.p.h.; at 35 m.p.h., 32.5; at 50 m.p.h., 46.2; at 60 m.p.h., 55.5. **Odometer** was inaccurate by about 4% (100 miles recorded as 104 miles).

Equipment on car tested: radio, heater, power steering, power brakes, power seat and electric window lift, windshield washer, and undercoating.

OBSERVATIONS AND CONCLUSIONS

The rated horsepower of the *Lincoln* remains the same as last year. Use of the new carburetor appears to have resulted in improved acceleration in the 40 to 60 m.p.h. range. Braking area has been increased by 10%. The power brakes operated satisfactorily, but with a stalled engine there was only enough vacuum reserve for a single application of the brakes. Thereafter, the brake pedal effort was very

LINCOLN CAPRI SPECIFICATIONS

Engine

8 cylinders in "V" arrangement, valve-in-head
Bore, 3.8 in.; stroke, 3.5 in.
Piston displacement: 317 cu. in.
Brake horsepower (rated): 205 at 4200 rpm.
Taxable horsepower: 46.2
Compression ratio: 8.0 to 1 (required premium gasoline)
Cylinder head: cast iron
Automatic choke
Crankcase oil capacity: 5 qt.
Oil filter: full-flow type
Cooling system (pressure type): 24.5 qt. with heater

Chassis, etc.

Wheelbase: 123 in.
Over-all length: 215 in.
Width: 77.5 in.
Height: 63 in.
Gear ratio: 3.31 to 1
Engine revolutions per mile: 2350
Tires: 8.00 x 15 (overloaded)
Brake area: 220 sq. in.
Brake factor: 44
Frame: "X" member with 5 cross members
Minimum road clearance: 7.4 in.
Turning diameter: 45.7 ft.
Front shoulder room: 57.5 in.
Rear shoulder room: 57 in.
Steering factor: 4.4

Other details

Battery: 6-volt 110-amp.-hr.
Gasoline tank: 20 gal.
Windshield wipers: vacuum type
Shipping weight: 4245 lb.
Curb weight of car tested: 4530 lb., 57% on front (above average)

high and it is doubtful whether a woman driver could apply the brakes strongly enough for an emergency stop under such conditions. The engine noise was low. Fresh-air intakes are located in a low position at the front (undesirable). The heating system can function without the use of blowers (good). *Hydra-Matic* transmission operated very smoothly, but there was a noticeable lag (about 1 sec.) when downshifting from fourth to a lower gear at 20 m.p.h. (full throttle). Battery is located under floor at front, which many would hold to be a backward step in battery location.

Oldsmobile Super 88

Except for rear suspension (leaf springs instead of coil), a different dash arrangement, softer seat cushions, and kind of automatic transmission (Hydra-Matic instead of Dynaflow transmission), this car is very similar to the Buick Century, and about $100 cheaper. A good car, but like the Buick Century, has more power than the consumer needs—and more than most drivers can use safely.

A

Oldsmobile Super 88. $2564 delivered N.J. Radio, $100; heater, $80; *Hydra-Matic*, $178; power steering, $134; power brakes, $40.

CR'S FINDINGS ON ROAD TESTS

Acceleration times from 0 to 30 m.p.h., 3.8 sec.; from 20 to 50 m.p.h., 7.6 sec.; from 40 to 60 m.p.h., 7.0 sec.; all very good.

Gasoline mileage under test conditions:[1] at 30 m.p.h., 21.6 m.p.g.; at 50 m.p.h., 18 m.p.g.

Riding comfort was somewhat below average; road shock from joints on concrete was particularly noticeable at speeds up to 50 m.p.h. The front seat cushion was extremely soft and springy, producing an effect on the riding quality that some disliked. The power steering operated satisfactorily except that there was some tendency to oversteer. Cornering ability was good.

Speedometer errors: at indicated speed of 20 m.p.h., actual speed was 19 m.p.h.; at 35 m.p.h., 32; at 50 m.p.h., 45. **Odometer** was inaccurate by about 5% (100 miles recorded as 105 miles).

OLDSMOBILE SUPER 88 SPECIFICATIONS

Engine

8 cylinders in "V" arrangement, valve-in-head
Bore, 3-7/8 in.; stroke, 3-7/16 in.
Piston displacement: 324.3 cu. in.
Brake horsepower (rated): 185 at 4000 rpm.
Taxable horsepower: 48
Compression ratio: 8.25 to 1 (required use of premium gasoline)
Cylinder head: cast iron
Automatic choke
Crankcase oil capacity: 5 qt.
Oil filter: full-flow type
Cooling system (pressure type): 21.5 qt. with heater

Chassis, etc.

Wheelbase: 122 in.
Over-all length: 205.5 in.
Width: 78.3 in.
Height: 60.5 in.
Gear ratio: 3.42 to 1 (3.23 to 1 with Hydra-Matic)
Engine revolutions per mile: 2480 (2340 with Hydra-Matic)
Tires: 7.60 x 15 (adequate)
Brake area: 192 sq. in.
Brake factor: 43
Frame: channel section side members and "I" beam, "X" member, 5 cross members
Minimum road clearance: 6.25 in.
Turning diameter: 42.5 ft.
Front shoulder room: 58.2 in.
Rear shoulder room: 56.7 in.
Steering factor: 4.6 (high for car with power steering)

Other details

Battery: 12-volt 60-amp.-hr.
Gasoline tank: 20 gal.
Windshield wipers: vacuum type
Shipping weight: 3734 lb.
Curb weight of car tested: 4249 lb., 55% on front (about average)

[1]These are not the same figures as miles per gallon under average road conditions; however, the figure for gasoline consumption at 50 m.p.h., if multiplied by 0.8 or 0.9 will often be close to that obtained in normal driving of an automobile.

Equipment on car tested: radio, heater, *Hydra-Matic*, power steering, power brakes, electrically moved front seat (up and down, forward and back), *Autronic Eye* for dimming headlights.

OBSERVATIONS AND CONCLUSIONS

This car has the same engine as used in the *Oldsmobile Ninety-Eight*, which sells for about $300 more, and is essentially the same car on a 4-in. shorter wheelbase, with somewhat less luxurious interior finish; for example, interior dome light is operated by front doors only, instead of all 4 doors, and the rear seat does not have a folding armrest. The *Hydra-Matic* selector lever was on the steering post but quadrant showing the range transmission was incorporated in the dash and operated electrically. There was no provision against accidentally shifting transmission lever into reverse when traveling forward at a speed under about 10 m.p.h. (potentially dangerous to driver, and perhaps to the transmission). Car body was adequate as to space, except for rear headroom, which was not sufficient for a tall person. For other comments, see *Oldsmobile Ninety-Eight* in the May issue.

Packard Clipper DeLuxe

A satisfactory car, but not considered outstanding.

A–

Packard Clipper DeLuxe. $2767 delivered Pa. Radio, $102; heater, $80; *Ultramatic*, $199; overdrive, $110; power steering, $155; power brakes, $45.

CR'S FINDINGS ON ROAD TESTS

Acceleration times from 20 to 50 m.p.h., 10.5 sec., good; from 40 to 60 m.p.h., 7.8 sec., very good.

Gasoline mileage under test conditions:[1] at 30 m.p.h., 20.2 m.p.g.; at 50 m.p.h., 15.4 m.p.g. (below average).

Riding comfort was good under all conditions, and cornering ability was also good. In spite of high steering ratio (which should tend to make steering easy), the steering effort required was greater than average.

Speedometer errors: at indicated speed of 20 m.p.h., actual speed was 19.3 m.p.h.; at 35 m.p.h., 33.5; at 50 m.p.h., 48; at 60 m.p.h., 57.3. **Odometer** was approximately correct.

Equipment on car tested: Heater and radio.

OBSERVATIONS AND CONCLUSIONS

No sound-deadening material had been used on the underside of the hood, and engine noises for this car were unusually high. The brakes operated satisfactorily but required moderate to heavy brake-pedal effort. The dual heating system has a heater located under the dash and also an underseat heater. The fresh-air inlets are located in a low position at front, which is undesirable. Instead of ammeter and oil pressure gauge, this car uses indicating lights (undesirable); see page 13.

[1]These are not the same figures as miles per gallon under average road conditions; however, the figure for gasoline consumption at 50 m.p.h., if multiplied by 0.8 or 0.9 will often be close to that obtained in normal driving of an automobile.

PACKARD CLIPPER DELUXE SPECIFICATIONS

Engine

8 cylinders in line, "L" head
Bore, 3-1/2 in.; stroke, 4-1/4 in.
Piston displacement: 327 cu. in.
Brake horsepower (rated): 165 at 3600 rpm.
Taxable horsepower: 39.2
Compression ratio: 8.0 to 1 (required premium gasoline)
Cylinder head: cast iron
Automatic choke
Crankcase oil capacity: 7 qt.
Oil filter: partial-flow type (optional)
Cooling system (pressure type): 20.6 qt. with heater

Chassis, etc.

Wheelbase: 122 in.
Over-all length: 216 in.
Width: 78 in.
Height: 62.5 in.
Gear ratio: 3.9 to 1 (3.23 to 1 with Ultramatic)
Engine revolutions per mile: 2830 (2340 with Ultramatic)
Tires: 7.60 x 15 (adequate)
Brake area: 192 sq. in.
Brake factor: 44
Frame: "X" type with 4 cross members, channel side member
Minimum road clearance: 8.4 in.
Turning diameter: 43 ft.
Front shoulder room: 57 in.
Rear shoulder room: 55-1/2 in.
Steering factor: 5.4 (high)

Other details

Battery: 6-volt 100-amp.-hr.
Gasoline tank: 20 gal.
Windshield wipers: vacuum type
Shipping weight: 3660 lb.
Curb weight of car tested: 3880 lb., 54.5% on front (about average)

Studebaker Commander Deluxe Starlight Coupe

A–

Studebaker Commander Deluxe Starlight Coupe. $2300 delivered Pa. Radio, $72 or $99; heater and defroster, $66; automatic transmission, $227; overdrive, $118.

CR'S FINDINGS ON ROAD TESTS

Acceleration times from 20 to 50 m.p.h., 11.6 sec. (average); from 40 to 60 m.p.h., 8.7 sec. (good). Note that above figures were obtained with a 4.27 to 1 rear axle ratio. It is estimated that with standard 4.09 to 1 ratio, acceleration times would be about 12.5 and 9.5 sec., respectively.

Gasoline mileage under test conditions:[1] at 30 m.p.h., overdrive locked out, 20.8 m.p.g. (overdrive in, 25.3 m.p.g.); at 50 m.p.h., overdrive out, 18.1 m.p.g. (overdrive in, 22.2 m.p.g., good). It is estimated that this car, when equipped with the standard 4.09 to 1 rear axle ratio, should give about 21.5 m.p.g. at 30 m.p.h., 19 m.p.g. at 50 m.p.h.

Riding comfort was good on smooth roads, but on rough roads some pitching and road shock were noticeable at all speeds. Cornering ability was good, steering effort moderate, but response was slow, requiring too many turns of steering wheel.

Speedometer errors: at indicated speed of 20 m.p.h., actual speed was 18.5 m.p.h.; at 35 m.p.h., 33; at 50 m.p.h., 47.5; at 60 m.p.h., 57.5. **Odometer** was inaccurate by about 1% (100 miles recorded as 101 miles).

Equipment on car tested: Radio, heater, overdrive with 4.27 to 1 rear axle ratio, turn signals.

OBSERVATIONS AND CONCLUSIONS

Studebaker is one of the very few manufacturers which has not joined in the race for higher and higher rated horsepower; this year's *Studebaker* engines have the same rated horsepower as last year's models. Most noteworthy change is the adoption of a new braking system with self-energizing and self-centering brake shoes; brake area has also been increased by about 8%. The brakes operated smoothly, but the brake pedal effort required was above average. Engine noises were low; at high speeds, however, there was noticeable vibration transmitted to the floor. Steering wheel column and brake pedal were poorly located; in moving his foot from the accelerator pedal to brake pedal, the operator may strike his knee on the steering column. The instruments on the dash were considered to be placed too low for easy and safe observation.

STUDEBAKER COMMANDER DELUXE STARLIGHT COUPE SPECIFICATIONS

Engine

8 cylinders in "V" arrangement, valve-in-head
Bore, 3-3/8 in., stroke, 3-1/4 in.
Piston displacement: 232.6 cu. in.
Brake horsepower (rated): 120 at 4000 rpm.
Taxable horsepower: 36.4
Compression ratio: 7.5 to 1
Cylinder head: cast iron
Automatic choke
Crankcase oil capacity: 6 qt.
Oil filter: by-pass type
Cooling system (pressure type): 18.75 qt. with heater

Chassis, etc.

Wheelbase: 120.5 in.
Over-all length: 202 in.
Width: 71 in.
Height: 56.3 in.
Gear ratio: 4.09 to 1 (4.27 to 1 with overdrive; 3.54 to 1 with automatic transmission)
Engine revolutions per mile: 3030 (2210 with overdrive; 2620 with automatic transmission)
Tires: 7.10 x 15 (adequate)
Brake area: 173 sq. in.
Brake factor: 45 (good)
Frame: box section, ladder type, 6 cross members
Minimum road clearance: 6.5 in.
Turning diameter: 41 ft.
Front shoulder room: 55 in.
Rear shoulder room: 53 in.
Steering factor: 5.9 (high)

Other details

Battery: 6-volt 100-amp.-hr.
Gasoline tank: 18 gal.
Windshield wipers: electric
Shipping weight: 3085 lb.
Curb weight of car tested: 3325 lb., 55.5% on front (about average)

Station wagons

A

Ford 6 Customline Ranch Wagon. $2256 delivered N.J. Radio, $89; heater, $78; overdrive, $110; automatic transmission, $184. A two-door steel station wagon with two seats; maximum capacity, six adults.

Riding comfort was fair. Considerable pitching and sideway on rough roads. Steering was precise, and steering effort was satisfactorily low.

OBSERVATIONS AND CONCLUSIONS

Engine noises were moderate and body was quiet. No exhaust odors were noticeable when driving with hinged section forming rear window in its raised position. The tailpipe discharged exhaust gases into slipstream of left rear wheel. The interior appointments of the car were considered excellent (plastic materials used throughout). Deck and tail gate were covered with a scuff-resistant material. The car had a single overhead light with a manual switch at the light and automatic switches on both doors. Armrests and ash trays were provided for rear seat passengers. Lugs were provided on the rear deck for attaching ropes to secure luggage (very desirable). The back of the front seat was divided at the center like that of two-door sedans, so as to permit access to the rear seat. Rear window and tail gate could

FORD 6 CUSTOMLINE RANCH WAGON SPECIFICATIONS

Engine

See Ford Customline 6

Chassis, etc.

Over-all length: 198 in.
Width: 73 in.
Height: 64 in.
Rear axle ratio: 4.27 to 1
See also Ford Customline 6

Dimensions of luggage space

Usable width (wheel housing): 42 in.
Depth from back of rear seat to closed tail gate: 37-1/2 in.
Depth from back of front seat (rear seat folded down) to closed tail gate: 68-1/4 in.
Average interior height: 37-1/4 in.
Rear deck opening height: 30-1/4 in.
Rear deck opening width: 41-1/2 in.

be opened from the inside by a single handle mounted inside on center of each. The rear window could be opened from the outside by a push-button type latch (wing-nut clamps were provided for added security). There were counterbalance springs for the window. The spare tire and tools were located under a hinged trap door which forms part or the rear deck, and access to them was considered better than on most station wagons. No difficulties in jacking up this car were evident. The rear seat folded easily and with little effort.

A–

Studebaker Commander Deluxe Conestoga. $2512 delivered Pa. Radio, $72 or $99; heater and defroster, $66; automatic transmission, $227; overdrive, $118. A two-door steel station wagon with two seats for six passengers (five and driver).

Riding comfort was good on both smooth and rough roads. Steering was precise; steering effort about average.

OBSERVATIONS AND CONCLUSIONS

Engine noise level was below average when the car was operating in overdrive. Creaking body noises were absent. No fumes or exhaust gas odors were noticed when the car was driven with the rear window in the raised position. As in most modern station wagons, the exhaust tailpipe discharged the gases at right angles to the slipstream at the right rear wheel. Interior appointments were considered excellent. Upholstery material throughout was of a plastic, pebble-grained material. Some people will find the plastic seat covering material (used on most station wagons) somewhat uncomfortable on long trips. The luggage deck, interior of tail gate, and back of rear seat were covered with a heavy composition material that should resist wear and remain attractive after considerable use. The rear-side window latches were of the sliding type and easily adjusted; their design was simple and sturdy. A single light, above and to left of the operator, incorporating a manual switch and automatic switches at both doors, provides adequate lighting of the interior. No armrests were provided for rear seat passengers. Collapsing the rear seat to increase the deck area could be done with a minimum of effort. The back rest of the front seat is divided at center (not considered as convenient as the two-third and one-third divided back rest). The spare tire and tools are conveniently located in a compartment under the rear deck. No difficulty in jacking up the car was evident. For adverse comments on steering column and brake pedal location, see *Studebaker Commander Deluxe Starlight Coupe.*

STUDEBAKER COMMANDER DELUXE CONESTOGA SPECIFICATIONS

Engine

See Studebaker Commander Deluxe Starlight Coupe

Chassis, etc.

Wheelbase: 116.5 in.
Over-all length: 196 in.
Width: 70 in.
See also Studebaker Commander Deluxe Starlight Coupe

Dimensions of luggage space

Usable width (wheel housing): 42 in.
Depth from back of rear seat to closed tail gate: 37.5 in.
Depth from back of front seat (rear seat folded forward to closed tail gate): 66 in.
Average interior height: 36.5 in.
Rear deck opening height: 30 in.
Rear deck opening width: 43 in.

Other details

Shipping weight: 3265 lb.
Curb weight of car tested: 3467 lb., 54.5% on front

Explanation of listings in table

The cars reported are, unless otherwise noted, 4-door sedans with standard equipment. In some cases where automatic transmissions were available as extra equipment, cars with automatic transmissions have also been included. (According to The Kiplinger Magazine, CHANGING TIMES, 4-door sedans account for 52 percent of the new cars sold. Two-door sedans account for about 28 percent of the sales, hard-top models 13 percent. The number of station wagons and convertibles sold is small: station wagons, 4 percent; convertibles, 3 percent.)

Brake Factor is a number indicative of the probable relative life of brake linings; a high brake factor is important from the standpoint of safety in use of the car, and probable low cost of brake maintenance. Cars with automatic transmissions require brakes that have a longer life built into them (with less need for frequent adjustment), than cars with standard gearshifts, because the reduced amount of engine braking available with automatic transmissions puts an extra burden on brakes and tends to increase wear on brake linings. (Overdrive, with freewheeling, likewise puts an extra burden on brakes.) The brake factor figures are obtained by dividing the total area of the brake linings in square inches by the shipping weight of the car plus the weight of five passengers at 150 lb. each, or 750 lb. (600 lb. for the *Nash Rambler Deluxe* 2-door and other 5-passenger cars), and multiplying by 1000 (to avoid fractional numbers).

Engine Revolutions per Mile is considered to give a rough relative measure of the probable or expected rate of engine wear, when the engines are of similar design.

Estimated Depreciation is based on the difference between the original factory delivered price of the most nearly comparable 1953 car and the turn-in value of that car as given in the Official Used Car Guide for April 1954, published by the National Automobile Dealers Used Car Guide Co., 1026 17 St., N.W., Washington 6, D. C. The estimates of depreciation, *very low, low, medium, high*, are indications of *relative* depreciation of the various cars under normal conditions. (They are based on numerical averages for 17 states east of the Mississippi River and the District of Columbia, but, as relative terms, will apply generally throughout the country.)

Steering Factor is believed to be a more accurate method of expressing the properties of the steering mechanism than the "steering gear ratio" often given. The steering factor is obtained by multiplying the number of turns of the steering wheel to turn the front car wheels from full right to full left by the length of the wheelbase in inches, and dividing the product by 100 times the angle turned by the car wheels in radians. A number that is too high is undesirable from a safety standpoint (slow steering response); a low number (except in the case of cars with power-assisted steering) would indicate hard steering at low speeds and relatively great physical effort required of the driver in parking.

Manufacturers' Rated Horsepower at Revolutions per Minute is the figure claimed by the manufacturer. The actual maximum brake horsepower delivered to the rear axle will be a great deal less, as manufacturers' brake horsepower figures are nearly always based on performance of the "bare engine." (See "High versus moderate horsepower.")

Acceleration tests are made by approaching a starting line, in high gear, at each of two constant speeds, one of 20 and one of 40 m.p.h., then immediately pressing the accelerator pedal to the floor. In cars with standard transmissions, the gear is not changed during the test run. On most of the cars with automatic transmissions, acceleration tests were also made in the 0 to 30 m.p.h. range. The ranges of 20 to 50 m.p.h. and 40 to 60 m.p.h. have been selected to give an indication of the ability of the particular car to pass another slower-moving car or truck on the road. Most states rightly restrict top driving speeds to 45 or 50 m.p.h. and do not allow the high speeds (or no fixed limit) common in some other states (chiefly in the west, south, and southwest). The lower speed limits are established with knowledge that the accident hazard—not only to the fast driver but to others on the road—goes up very greatly with high speed. High speed is a killer, even in states which, because of low traffic density, have not set any fixed speed limit.

Miles-per-gallon figures were obtained with one of the usual miles-per-gallon testers on a level road at a constant speed of 50 m.p.h. The miles per gallon obtained in normal country driving, which will include some stopping and starting, and acceleration, should, as a rule, be between eight-tenths (0.8) and nine-tenths (0.9) of these figures.

Miles-per-gallon figures are also given as obtained in the Mobilgas Economy Run. These figures are considerably higher than the consumer will be able to obtain with his car, chiefly because the test cars were driven by experts who had familiarized themselves with the test course and by this and other very special techniques were able to operate the cars with the highest possible efficiency. All cars in the Mobilgas run except *Chevrolet* were equipped with overdrive or automatic transmissions.

The ratings of the cars are based partly on actual tests of 28 of the models by CR's engineers and consultants, partly on reports from consultants and subscribers. (It was not possible to test in detail all the 62 cars listed, some of which were minor variants of basic models, in the necessarily limited time available. It is estimated that in 1953 about *75 percent* of the cars sold were in the five lowest price groups [$1400 to $2500].)

Delivered Prices given are prices as of April 1954 in western New Jersey and eastern Pennsylvania. These prices do not include any state or city taxes and will vary for different parts of the country as the freight charge varies; however, they are not far from average delivered prices for the country as a whole.

Recommendations in nine price groups

Price group 1 ($1400 to $1600)

This group consists of small cars with a wheelbase of 100 inches or less, and appeals mostly to two-car families as a second car for shopping, short trips, etc. These cars are economical to operate, easy to park and handle. The English-made *Nash Metropolitan* is too new for definite appraisal at this time. The small (42 hp.) engine runs quietly and has a surprising amount of pep; the car rides and handles well; it seats only two adults. First choice in this group is the *Nash Rambler Deluxe*, 2-door.

(*Continued on page 28*)

MAKE AND MODEL	Factory Delivered Price	Delivered Price, N.J. or Pa., $	Estimated Depreciation	Wheelbase, Inches	Over-all Length, Inches	Over-all Width, Inches	Number of Cylinders	Manufacturers' Rated Horsepower at Revolutions Per Minute	Maximum Torque lb. ft. at rpm.	Hp. Per Cu. In. Displacement	Percentage of Weight on Front	Shipping Weight, lb.	Compression Ratio: Standard	Compression Ratio: Optional	Steering Factor
PRICE GROUP 1															
Henry J 4	1404	•	High	100	182	70	4	68 @ 4000	109 @ 1800	.51	•	2405	7.0	—	•
Nash Metropolitan	*1445	—	•	85	149.5	62	4	42 @ 4500	62 @ 2400	.57	•	1825	7.2	—	•
Nash Rambler Deluxe 2-door	1550	1625	Med.	100	185.5	74	6	85 @ 3800	150 @ 1600	.46	•	2460	7.25	—	•
Henry J Deluxe 6	1566	•	High	100	182	70	6	80 @ 3800	133 @ 1600	.50	•	2455	7.0	—	•
PRICE GROUP 2															
Chevrolet 150	1680	1824	Low	115	196.5	75	6	115 @ 3700	200 @ 2000	.49	•	3210	7.5	—	4.2
Ford 6 Mainline	1701	1821	Med.	115.5	198.5	74	6	115 @ 3900	193 @ 2200	.52	•	3155	7.2	—	4.3
Plymouth Plaza	1765	1870	Med.	114	193.5	74	6	100 @ 3600	177 @ 1600	.46	•	3005	7.1	—	•
Chevrolet 210	1771	1915	Low	115	196.5	75	6	115 @ 3700	200 @ 2000	.49	53.5	3230	7.5	—	4.2
Ford V-8 Mainline	1777	1921	Low	115.5	198.5	74	V8	130 @ 4200	214 @ 2200	.54	•	3250	7.2	—	4.3
Ford 6 Customline	1793	1922	Med.	115.5	198.5	74	6	115 @ 3900	193 @ 2200	.52	56.5	3175	7.2	—	4.3
Studebaker Champion Custom	1801	1867	Low	116.5	199	71	6	85 @ 4000	138 @ 2400	.50	•	2735	7.5	—	•
Willys Aero Lark	1823	1893	High	108	181	72	6	90 @ 4200	135 @ 1600	.56	•	2660	7.6	—	•
Hudson Jet	1858	1919	Med.	105	181	67	6	104 @ 4000	158 @ 1400	.52	•	2675	7.5	8.0	3.6
Ford V-8 Customline	1870	2022	Low	115.5	198.5	74	V8	130 @ 4200	214 @ 2200	.54	57.5	3270	7.2	—	4.3
Plymouth Savoy[4]	1873	1998	Med.	114	193.5	75	6	100 @ 3600	177 @ 1600	.46	•	3035	7.1	—	•
PRICE GROUP 3															
Hudson Super Jet[1]	1954	2015	High	105	181	68	6	104 @ 4000	158 @ 1400	.53	55	2725	7.5	8.0	3.6
Nash Rambler Custom[2]	1965	2055	•	108	186.5	74	6	90 @ 3800	150 @ 1600	.46	53.5	2665	7.3	—	3.4
Ford 6 Customline Fordomatic	1977	2106	Med.	115.5	198.5	74	6	115 @ 3900	193 @ 2200	.52	•	3240	7.2	—	4.3
Plymouth Savoy Hy-Drive[4]	2019	2144	Med.	114	193.5	74	6	100 @ 3600	177 @ 1600	.46	54	3065	7.1	—	3.3[3]
Dodge Meadowbrook 6	2025	2145	Med.	119	205.5	74	6	110 @ 3600	190 @ 1600	.48	•	3195	7.25	—	•
Studebaker Champion Regal[1]	2026	2119	Low	116.5	199	71	6	85 @ 4000	138 @ 2400	.50	54	2770	7.5	—	3.9
Pontiac Chieftain 6 Special	2027	2106	Low	122	203	77	6	115 @ 3800	193 @ 2000	.48	•	3390	7.0	7.7	•
Ford V-8 Customline Fordomatic	2054	2206	Low	115.5	198.5	74	V8	130 @ 4200	214 @ 2200	.54	57.5	3335	7.2	—	4.3
Chevrolet Bel Air Powerglide	2062	2147	Low	115	196.5	75	6	125 @ 4000	200 @ 2000	.53	•	3380	7.5	—	4.2
PRICE GROUP 4															
Pontiac Chieftain 8 Special	2102	2181	Low	122	203	77	8	122 @ 3800	226 @ 2200	.46	•	3450	6.8	7.7	•
Willys Aero Eagle Hardtop	2167	2237	Med.	108	181	72	6	115 @ 3650	190 @ 1800	.51	•	2780	7.3	—	•
Pontiac 6 Special Hydra-Matic	2205	2284	Low	122	203	77	6	118 @ 3800	197 @ 2000	.49	•	3510	7.7	7.0	•
Studebaker Comm. Dl. Starlight Coupe[1]	2233	2300	Med.	120.5	202	71	V8	120 @ 4000	190 @ 2000	.55	55.5	3085	7.5	—	5.9
Hudson Wasp	2256	2376	High	120	201.5	78	6	126 @ 4400	178 @ 2400	.54	•	3440	7.0	7.5	•
Buick Special	2265	2419	Low	122	206.5	77	V8	143 @ 4200	228 @ 2400	.54	•	3715	7.2	—	5.2
PRICE GROUP 5															
Nash Statesman Custom	2332	2447	Med.	114.5	202.5	78	6	110 @ 4000	155 @ 2000	.56	53	3070	8.5	—	4.1
Mercury Monterey[1]	2333	2512	Low	118	204	75	V8	161 @ 4400	238 @ 2200	.63	56	3515	7.5	—	4.6[3]

[1]Car CR tested was equipped with overdrive, but price of overdrive not included in price shown in table.
[2]Car CR tested was equipped with power steering.
[3]Car CR tested was equipped with automatic or semiautomatic transmission, but price given for the car does not include this item, unless it is a "standard equipment" item.
[4]Later models have larger engine (110 hp. at 3800 rpm., 7.25 to 1 compression ratio).

Brake Area, sq. in.	Brake Factor	Tire Size	Percent Overload on Tires	Turning Diameter, Feet	Minimum Road Clearance, in.	Engine to rear wheels Gear Ratio: Standard	Engine to rear wheels Gear Ratio: Optional	Engine Revolutions Per Mile: Standard	Engine Revolutions Per Mile: Optional	Acceleration Time in Seconds: 0-30 m.p.h.	Acceleration Time in Seconds: 20-50 m.p.h.	Acceleration Time in Seconds: 40-60 m.p.h.	M.p.g. at 50 m.p.h.	M.p.g. Mobilgas-AAA Run	Rating	MAKE AND MODEL
132	44	5.90 x 15	—	35.0	7.5	4.27	4.55	3370	2510	• •	• •	• •	•	NE	B	*Henry J 4*
77	36	5.20 x 13	—	•	•	4.62	—	3970	—	• •	• •	• •	•	NE	B	*Nash Metropolitan*
92	30	5.90 x 15	—	43.0	•	3.77	4.4	2980	2440	• •	• •	• •	•	NE	A–	*Nash Rambler Deluxe 2-door*
132	43	5.90 x 15	—	35.0	7.5	4.1	4.55	3240	2510	• •	• •	• •	•	NE	B+	*Henry J Deluxe 6*
158	40	6.70 x 15	7	38.0	7.0	3.7	3.55	2770	2660	See Chevrolet 210				NE	A	*Chevrolet 150*
174	45	6.70 x 15	6	41.0	6.6	3.9	4.1	2920	2150	See Ford 6 Customline				26.1[1]	A	*Ford 6 Mainline*
158	42	6.70 x 15	—	39.0	7.4	3.73	4.1	2790	2150	See Plymouth Savoy				NE	A	*Plymouth Plaza*
158	40	6.70 x 15	7	38.0	7.0	3.7	3.55	2770	2660	• •	14.6 ba	10.7 a	20.0	22.3	A	*Chevrolet 210*
174	44	6.70 x 15	8	41.0	6.6	3.9	4.1	2920	2150	See Ford V-8 Customline				23.4[1]	A	*Ford V-8 Mainline*
174	44	6.70 x 15	6	41.0	6.6	3.9	4.1	2920	2150	• •	12.9 a	10.0 a	19.1	NE	A	*Ford 6 Customline*
147	42	6.40 x 15	—	39.5	6.8	4.1	4.56	3150	2450	See Studebaker Champion Regal				29.6[1]	A–	*Studebaker Champion Custom*
133	39	5.90 x 15	14	38.0	•	4.1	4.56	3240	2520	• •	• •	• •	•	NE	B+	*Willys Aero Lark*
132	39	5.90 x 15	8	40.5	7.5	4.1	4.27	3240	2360	See Hudson Super Jet				21.6[2]	B+	*Hudson Jet*
174	43	6.70 x 15	9	41.0	6.6	3.9	4.1	2920	2150	• •	12.1 a	8.9 g	16.6	NE	A	*Ford V-8 Customline*
158	42	6.70 x 15	—	39.0	7.4	3.73	4.1	2790	2150	• •	12.6 a	9.9 g	17.2	22.4[1]	A	*Plymouth Savoy*[4]
132	38	6.40 x 15	—	40.5	7.5	4.1	4.27	3150	2300	• •	11.6 a	9.0 g	22.4	NE	B+	*Hudson Super Jet*[1]
104	30	6.40 x 15	—	42.0	6.9	3.77	3.3	2900	2530	6.4 g	14.1 ba	15 ba	22	NE	A–	*Nash Rambler Custom*[2]
174	44	6.70 x 15	8	41.0	6.6	3.31	3.54	2480	2650	8.8 ba	11.3 a	11.1 a	18.6	NE	A	*Ford 6 Customline Fordomatic*
158	41	6.70 x 15	—	39.0	7.4	3.73	—	2790	—	8.3 ba	16.6 ba	15.6 ba	17.0	NE	A–	*Plymouth Savoy Hy-Drive*[4]
158	40	6.70 x 15	7	41.5	7.5	3.9	4.3	2920	2250	• •	• •	• •	•	NE	A–	*Dodge Meadowbrook 6*
147	42	6.40 x 15	—	39.5	6.8	4.1	4.56	3150	2450	• •	15.1 ba	13.3 ba	23.2	NE	A–	*Studebaker Champion Regal*[1]
171	41	7.10 x 15	—	41.0	6.8	4.1	3.08	3030	2280	• •	• •	• •	•	NE	A–	*Pontiac Chieftain 6 Special*
174	43	6.70 x 15	10	41.0	6.6	3.31	3.54	2480	2650	5.8 g	10.0 g	9.8 g	16.3	NE	A	*Ford V-8 Customline Fordomatic*
158	38	6.70 x 15	12	38.0	7.0	3.55	—	2660	—	6.9 a	9.5 g	10.6 a	17.8	NE	A	*Chevrolet Bel Air Powerglide*
171	41	7.10 x 15	6	41.0	6.8	3.9	3.08	2890	2280	• •	• •	• •	•	NE	A	*Pontiac Chieftain 8 Special*
133	38	6.40 x 15	6	40.5	6.4	3.54	4.1	2720	2210	• •	• •	• •	•	NE	B+	*Willys Aero Eagle Hardtop*
171	40	7.10 x 15	8	41.0	6.8	3.08	—	2280	—	• •	• •	• •	•	NE	A–	*Pontiac 6 Special Hydra-Matic*
173	45	7.10 x 15	—	41.0	6.5	4.09	4.27	3030	2210	• •	11.6 a	8.7 g	22.2	NE	A–	*Studebaker Comm. Dl. Starlight Coupe*[1]
140	33	7.10 x 15	6	41.5	6.1	4.09	4.55	3030	2360	• •	• •	• •	•	NE	B+	*Hudson Wasp*
185	41	7.60 x 15	—	43.0	6.5	3.9	—	2830	—	• •	• •	• •	•	NE	A	*Buick Special*
150	39	6.70 x 15	—	44.5	7.5	4.4	4.9	3290	2570	• •	• •	• •	•	NE	A–	*Nash Statesman Custom*
159	37	7.10 x 15	8	41.0	6.3	3.91	4.09	2890	2120	• •	13.3 ba	9.8 g	18.7	21.5[1]	A–	*Mercury Monterey*[1]

• Information not available.
*F.O.B. Port of Entry.

NE—not entered
Med.—Medium

vg—very good
g—good

ba—below average
a—average

MAKE AND MODEL	Factory Delivered Price	Delivered Price, N.J. or Pa., $	Estimated Depreciation	Wheelbase, Inches	Over-all Length, Inches	Over-all Width, Inches	Number of Cylinders	Manufacturers' Rated Horsepower at Revolutions Per Minute	Maximum Torque lb. ft. at rpm.	Hp. Per Cu. In. Displacement	Percentage of Weight on Front	Shipping Weight, lb.	Compression Ratio: Standard	Compression Ratio: Optional	Steering Factor
PRICE GROUP 5 (Continued)															
Dodge Royal V-8	2373	2482	Med.	119	205.5	75	V8	150 @ 4400	222 @ 2400	.62	56	3425	7.5	—	3.8[3]
DeSoto Power Master 6	2386	2533	Med.	125.5	214.5	78	6	116 @ 3600	208 @ 1600	.46	•	3590	7.0	—	•
Kaiser Special	2389	•	High	118.5	214	75	6	118 @ 3650	200 @ 1800	.52	•	3315	7.3	—	•
Nash Ambassador Super	2417	2542	Med.	121.5	209	78	6	130 @ 3700	220 @ 1600	.52	•	3430	7.6	8.0	•
Buick Special Dynaflow	2458	2612	Med.	122	206.5	77	V8	150 @ 4200	240 @ 2400	.54	54	3815	8.1	—	5.2
Oldsmobile Super 88[2]	2477	2564	Low	122	205.5	78	V8	185 @ 4000	300 @ 2000	.57	55	3735	8.25	—	4.6[3]
Pontiac 8 Star Chief Hydra-Matic	2479	2560	Low	124	214	77	8	127 @ 3800	234 @ 2200	.47	55	3655	7.7	6.8	4.9[3]
PRICE GROUP 6															
Nash Statesman Custom Hydra-Matic	2511	2626	Med.	114.5	202.5	78	6	110 @ 4000	155 @ 2000	.56	53	3175	8.5	—	4.1
Buick Century	2520	2678	•	122	206.5	77	V8	195 @ 4100	302 @ 2400	.61	•	3785	8.0	—	5.2
Mercury Monterey Merc-O-Matic	2523	2702	Low	118	204	75	V8	161 @ 4400	238 @ 2200	.63	56	3595	7.5	—	4.6[3]
Dodge Royal V-8 PowerFlite	2562	2671	Med.	119	205.5	75	V8	150 @ 4400	222 @ 2400	.62	56	3450	7.5	—	3.8[3]
Chrysler Windsor Deluxe	2562	2697	Med.	125.5	215.5	78	6	119 @ 3600	218 @ 1600	.45	•	3685	7.0	—	•
Hudson Super Wasp Hydra-Matic	2644	2713	High	120	203	78	6	140 @ 4000	214 @ 1600	.53	•	3675	7.0	7.5	•
Kaiser Manhattan	2670	•	High	118.5	215.5	75	6	140 @ 3900	215 @ 2400	.62	•	3375	7.3	—	•
DeSoto Firedome V-8	2673	2793	Med.	125.5	214.5	78	V8	170 @ 4400	255 @ 2400	.62	•	3750	7.5	—	•
Packard Clipper Deluxe	2695	2767	Med.	122	215.5	78	8	165 @ 3600	295 @ 2200	.51	54.5	3660	8.0	—	5.4
PRICE GROUP 7															
Buick Super	2711	2878	Med.	127	217	80	V8	177 @ 4100	295 @ 2000	.55	•	4105	8.0	—	•
Buick Century Dynaflow	2713	2871	•	122	206.5	77	V8	200 @ 4100	309 @ 2400	.62	54.5	3885	8.5	—	4.6[3]
Hudson Hornet[1]	2769	2844	High	124	209	78	6	160 @ 3800	264 @ 1800	.52	•	3620	7.5	—	5.5[3]
Oldsmobile 98[2]	2806	2884	Low	126	214.5	78	V8	185 @ 4000	300 @ 2000	.57	53.5	3845	8.25	—	•
Packard Clipper Super	2815	2903	Med.	122	215.5	78	8	165 @ 3600	295 @ 2200	.51	•	3695	8.0	—	5.4
DeSoto Firedome V-8 PowerFlite	2862	2982	Med.	125.5	214.5	78	V8	170 @ 4400	255 @ 2400	.62	55.5	3770	7.5	—	3.5[3]
PRICE GROUP 8															
Chrysler New Yorker	3229	3369	High	125.5	216	78	V8	195 @ 4400	320 @ 2000	.59	55.5	3955	7.5	—	3.5[3]
Buick Roadmaster	3269	3453	Med.	127	217	80	V8	200 @ 4100	309 @ 2400	.62	53	4250	8.5	—	5.4[3]
Packard Cavalier	3344	3438	Med.	127	216.5	78	8	185 @ 4000	310 @ 2200	.57	•	3975	8.0	—	•
Chrysler New Yorker Deluxe	3433	3518	High	125.5	216	78	V8	235 @ 4400	330 @ 2600	.71	55.5	4060	7.5	—	3.5[3]
PRICE GROUP 9															
Lincoln Capri	3711	3846	Low	123	215	78	V8	205 @ 4200	305 @ 2300	.65	57	4245	8.0	—	4.4[3]
Packard Patrician	3890	3984	High	127	216.5	78	8	212 @ 4000	330 @ 2200	.59	•	4190	8.7	—	•
Cadillac 62	3933	4008	V. Low	129	216.5	80	V8	230 @ 4400	330 @ 2700	.70	52	4370	8.25	—	4.8[3]
Chrysler Custom Imperial	4260	4425	High	133.5	224	78	V8	235 @ 4400	330 @ 2600	.71	•	4355	7.5	—	•

[1]Car CR tested was equipped with overdrive, but price of overdrive not included in price shown in table.
[2]Car CR tested was equipped with power steering.
[3]Car CR tested was equipped with automatic or semiautomatic transmission, but price given for the car does not include this item, unless it is a "standard equipment" item.

Brake Area, sq. in.	Brake Factor	Tire Size	Percent Overload on Tires	Turning Diameter, Feet	Minimum Road Clearance, in.	Engine to rear wheels Gear Ratio: Standard	Engine to rear wheels Gear Ratio: Optional	Engine Revolutions Per Mile: Standard	Engine Revolutions Per Mile: Optional	Acceleration Time in Seconds: 0-30 m.p.h.	Acceleration Time in Seconds: 20-50 m.p.h.	Acceleration Time in Seconds: 40-60 m.p.h.	M.p.g. at 50 m.p.h.	M.p.g. Mobilgas-AAA Run	Rating	MAKE AND MODEL
174	42	7.10 x 15	5	41.5	7.6	3.9	4.3	2890	2230	• •	• •	• •	•	25.4[1]	A–	*Dodge Royal V-8*
201	46	7.60 x 15	—	42.0	7.0	3.9	4.3	2830	2180	• •	• •	• •	•	NE	A–	*DeSoto Power Master 6*
176	43	6.70 x 15	9	38.0	7.0	3.91	4.55	2920	2380	• •	• •	• •	•	NE	B	*Kaiser Special*
172	41	7.10 x 15	6	46.0	•	4.1	4.4	3030	2280	• •	• •	• •	•	20.7[2]	A–	*Nash Ambassador Super*
185	40	7.60 x 15	5	43.0	6.5	3.6	—	2610	—	6.3 g	10.4 g	9.9 g	17.2	NE	A	*Buick Special Dynaflow*
192	43	7.60 x 15	—	42.5	6.3	3.42	3.23	2480	2340	3.8 vg	7.6 vg	7.0 vg	18.0	19.8[2]	A	*Oldsmobile Super 88*[2]
171	38	7.10 x 15	11	43.0	6.8	3.23	—	2390	—	5.4 g	12.7 a	10.2 a	17.6	NE	A–	*Pontiac 8 Star Chief Hydra-Matic*
150	38	6.70 x 15	6	44.5	7.5	3.6	—	2690	—	6.2 g	13.2 ba	12.6 ba	15.8	NE	A–	*Nash Statesman Custom Hydra-Matic*
208	46	7.60 x 15	—	43.0	6.5	3.9	—	2830	—	• •	• •	• •	•	NE	A	*Buick Century*
159	37	7.10 x 15	10	41.0	6.3	3.54	3.31	2620	2450	• •	• •	• •	•	NE	A–	*Mercury Monterey Merc-O-Matic*
174	41	7.10 x 15	6	41.5	7.6	3.54	—	2620	—	6.5 a	10.5 g	13.4 ba	16.1	21.4[2]	A–	*Dodge Royal V-8 PowerFlite*
201	45	7.60 x 15	—	42.0	7.6	3.9	3.73	2830	2710	• •	• •	• •	•	NE	A–	*Chrysler Windsor Deluxe*
159	36	7.10 x 15	12	41.5	6.1	3.07	—	2270	—	• •	• •	• •	•	NE	B+	*Hudson Super Wasp Hydra-Matic*
176	43	6.70 x 15	9	•	•	3.91	4.55	2920	2380	• •	• •	• •	•	NE	B	*Kaiser Manhattan*
201	45	7.60 x 15	—	42.0	7.0	3.73	4.1	2710	2090	• •	• •	• •	•	20.4[1]	A	*DeSoto Firedome V-8*
192	44	7.60 x 15	—	43.0	8.4	3.9	4.1	2830	2090	• •	10.5 g	7.8 vg	15.4	17.9[2]	A–	*Packard Clipper DeLuxe*
208	43	7.60 x 15	11	43.0	6.5	3.9	3.4	2830	2470	• •	• •	• •	•	NE	A	*Buick Super*
208	45	7.60 x 15	6	43.0	6.5	3.4	—	2470	—	5.4 g	8.4 vg	7.8 vg	16.8	NE	A	*Buick Century Dynaflow*
159	36	7.10 x 15	10	44.0	6.1	4.09	3.07	3030	2270	• •	10.7 g	7.9 vg	16.4	19.8[2]	B+	*Hudson Hornet*[1]
192	42	7.60 x 15	5	43.0	6.3	3.42	3.23	2480	2340	4.1 vg	7.3 vg	6.7 vg	19	NE	A	*Oldsmobile 98*[2]
192	43	7.60 x 15	—	43.0	•	3.9	3.23	2830	2340	• •	• •	• •	•	NE	A–	*Packard Clipper Super*
201	45	7.60 x 15	—	42.0	7.0	3.54	—	2570	—	6.1 g	9.2 g	7.9 vg	17.1	18.0[2]	A	*DeSoto Firedome V-8 PowerFlite*
201	43	8.00 x 15	—	42.0	7.9	3.36	—	2390	—	5.4 g	8.5 vg	7.0 vg	16.1	17.8[2]	A	*Chrysler New Yorker*
219	44	8.00 x 15	8	43.0	6.7	3.4	—	2420	—	6.0 g	8.2 vg	7.6 vg	17.6	NE	A	*Buick Roadmaster*
208	44	8.00 x 15	—	45.0	•	3.9	3.54	2770	2520	• •	• •	• •	•	NE	A–	*Packard Cavalier*
201	42	8.00 x 15	—	42.0	7.9	3.36	—	2390	—	4.8 vg	6.7 vg	5.6 vg	15.8	NE	A	*Chrysler New Yorker Deluxe*
220	44	8.00 x 15	8	45.5	7.4	3.31	—	2350	—	5.0 g	9.2 g	7.1 vg	15.8	19.8[2]	A	*Lincoln Capri*
208	42	8.00 x 15	6	45.0	•	3.54	—	2520	—	• •	• •	• •	•	NE	A–	*Packard Patrician*
212	41	8.00 x 15	10	45.0	6.2	3.07	3.36	2180	2390	4.8 vg	6.9 vg	6.2 vg	19.2	NE	A	*Cadillac 62*
201	39	8.20 x 15	—	•	7.5	3.54	—	2490	—	• •	• •	• •	•	16.4[2]	A	*Chrysler Custom Imperial*

• Information not available.
V. Low—Very Low
NE—not entered
Med.—Medium
vg—very good
g—good
ba—below average
a—average

STATION WAGONS MAKE AND MODEL	Type	Factory Delivered Price, $	Delivered Price, Pa. or N.J.$	Rated Brake Horsepower at Stated rpm.	Wheelbase, Inches	Over-all Length, Inches	Shipping Weight, lb.	Tire Size	Percent Tires Overloaded	Dimensions of Space for Carrying a Load, in Inches						Rating
										a	b	c	d	e	f	
Plymouth Plaza Suburban	2-door, 6-pass.	2064	2136	100 @ 3600	114	189.5	3170	6.70 x 15	14	47	31	60	37	32	44	A
Ford 6 Customline Ranch Wagon	2-door, 6-pass.	2122	2256	115 @ 3900	115.5	198	3370	7.10 x 15	12	42	37.5	68.3	37.3	30.3	41.5	A
Chevrolet Handyman 210	4-door, 6-pass.	2133	2259	115 @ 3700[1]	115	198	3470	6.70 x 15	22	45	38.8	69	41	35	47.8	A
Ford V-8 Customline Country Sedan	4-door, 8-pass.	2279	2442	130 @ 4200	115.5	198	3635	7.10 x 15[3]	—	42	42	77	38	31	41.5	A
Studebaker Commander Deluxe Conestoga	2-door, 6-pass.	2448	2512	120 @ 4000	116.5	196	3265	7.10 x 15	9	42	37.5	66	36.5	30	43	A–
Pontiac Chieftain 8 Special	4-door, 8-pass.	2494	2605	122 @ 3800[2]	122	205	3880	7.10 x 15	25	45.8	38.3	73.8	42*	34	48.0	A

[1]125 at 4000 rpm. with *Powerglide*.
[2]127 at 3800 rpm. with *Hydra-Matic*.
[3]6-ply tires.
*45.5 at front deck.
a—Usable width (between insides of wheel housings).
b—Depth from back of rear seat (middle seat in 8-passenger models) to closed tail gate
c—Depth from back of front seat to closed tail gate.
d—Height inside, average.
e—Height of rear deck opening.
f—Width of rear deck opening.

Price group 2 ($1601 to $1900)

The choice for first place lies between the *Ford 6* or *V-8* and the *Chevrolet 150* or *210* with standard transmissions. Apart from the problem of relative cost of operation, opinion among CR's engineers was divided, with a very slight preference for the *Ford 6*. The *Ford 6* gave somewhat better acceleration than the *Chevrolet* and only slightly less gasoline mileage. These four cars, however, are so close together that the individual may well base his choice on personal preference as to styling and financial considerations, depending upon which make offers the best (lowest) net cost to the purchaser (considering the trade in). Those who want the best acceleration available in this price group at the expense of around 15 percent lower gasoline mileage may well prefer the *Ford V-8*. Speaking approximately, it will cost the owner in the first year about $50 less to drive a *Ford V-8* rather than a *Ford 6*. This is because the depreciation on the *6* is higher than on the *V-8* for the first year. After two years, the advantage of economy will be in favor of the *6*, because of its greater miles per gallon of gasoline. On an economy basis (fuel consumption and depreciation), one of the *Chevrolets* would be the preferred buy in this group. The *Plymouth* follows as a close fourth choice; its acceleration was practically the same as the *Ford 6*. *Plymouth* has just brought out a model with the more powerful *Dodge 6* engine, which should bring *Plymouth* into closer competition with *Ford* and *Chevrolet*.

Price group 3 ($1901 to $2075)

In this group, which includes four cars with automatic transmissions, *Ford V-8 Customline Fordomatic* and the *Chevrolet Powerglide* are very close in our opinion; they have about the same acceleration, but the *Chevrolet* gave somewhat better gasoline mileage. First choice, *Chevrolet Powerglide*; second choice, *Ford V-8 Customline Fordomatic*; third choice, *Ford 6 Customline Fordomatic*.

Price group 4 ($2076 to $2300)

First choice, *Buick Special* with standard transmission; second choice, *Pontiac Chieftain 8 Special*; third choice, *Pontiac 6 Special Hydra-Matic* or *Studebaker Commander*.

Price group 5 ($2301 to $2500)

First choice, *Buick Special Dynaflow* or *Olds-*

mobile Super 88; third choice, *Dodge Royal V-8* or *Mercury Monterey*.

Price group 6 ($2501 to $2700)

First choice, *DeSoto Firedome V-8* or *Buick Century*; third choice, *Dodge Royal V-8 PowerFlite*.

Price group 7 ($2701 to $3000)

First choice, *DeSoto Firedome V-8 PowerFlite*; second choice, *Buick Super, Buick Century Dynaflow* or *Oldsmobile 98*.

Price group 8 ($3001 to $3600)

First choice, *Chrysler New Yorker* or *Chrysler New Yorker Deluxe*; third choice, *Buick Roadmaster*.

Price group 9 ($3601 and above)

First choice, *Cadillac 62*; second choice, *Lincoln Capri*; third choice, *Chrysler Custom Imperial*.

Note: While CR has commented elsewhere in this BULLETIN that it considers many of the cars in the higher price groups excessively high-powered for our present roads and traffic conditions, this has not been a consideration in arriving at the ratings or selecting what are considered to be the best cars within the various price groups. To lower a car's rating because of excessive power would introduce so many complications that it would not provide a workable basis of rating that would be reasonably satisfactory to large numbers of consumers. The subscriber must therefore, at this time, decide for himself whether or not, for example, he should buy the *Buick Century* with rated horsepower of 195 (52 rated horsepower per 1000 pounds of weight) or *Buick Special* with rated horsepower of 143 (38 rated horsepower per 1000 pounds of weight).

". . .Auto salesmen do not seem to know anything about cars except as to whether the chromium gingerbread is the latest style. For instance, I asked a salesman for the ——— car what the ground clearance was, and after pretending to consult the higher ups, he said it was *15 inches*. It is not safe to trust them for any information." [From the letter of a retired attorney in the Middle West.]

Off the Editor's Chest

(Continued from page 2)

designers seem to have lost sight of the primary purpose of an automobile—which is a machine to facilitate travel.

Apparently there is a lot of suppressed irritation with current automobile design that has not reached the ears of those in Detroit who determine the features of next year's cars. Indeed, until very recently it has not been necessary for automobile manufacturers to do anything more than deliver their latest models to local dealers as fast as the assembly line could turn them out. Now that consumer demand has very noticeably slackened, perhaps automobile manufacturers will set their "customer research" departments into action to find out just what consumers would prefer to buy in an automobile and, above all, *what they don't like about present cars*.

If CR's experience is typical, it will take very little effort for the market survey departments to set in motion a voluminous flow of letters from intelligent and observing consumers who need only to be encouraged to make known their dissatisfactions and desires. The well-written criticism of current automobile design by one of CR's subscribers, that appeared in CR's April 1954 BULLETIN, brought a number of letters from others who had additional complaints and suggestions such as this:

"On leg room, I may be abnormal. But from the 1933 *Franklin Olympian*, I have always had to use

a cushion on the seat when driving, in order to get enough leg stretch for comfort. No car of this past 21 years has had the front seat set so it can move far enough back to give me straight-out leg when clutch and brake pedals are pushed hard down. Rear passenger leg room has been about the same all this time, even on the 1930 *Dodge*. It has been just as great as on most of the more expensive cars I have ridden in, during this period. In none of them is it enough.

¶. . . it has been utterly out of the question to use chains on the last two cars in winter. I have managed well enough with "snow and mud type" tires, but I admit that I'd have liked to be able to get chains on, twice in the last four years.

¶. . . and I agree that the high "tunnel" in the middle of the newer cars is an inconvenience. It wasn't bad in the 1939 and the 1947—it is rather too big, too protuberant in the floor in the 1953.

¶My personal pet peeve is on the hood. I don't like the alligator type hood at all. The old *Mercedes* type hood was really much handier. Also, the hood continues, as all through the years, to be too high at the front—and the windshield does not extend down far enough. For safety I want to be able to see as close in front as with the old *Model A Ford* (or its precurser, the *Model T*, of which I had three in succession).

¶I have deliberately avoided getting most of the "fancy fixings." I have refused to buy anything with an automatic or semi-automatic transmission.

¶I think it would be the part of wisdom for the auto trade to shorten the overall length of every model one inch every year for the next fifteen years . . . all of them.

¶The plain fact also is that almost all cars now have more speed, power and pickup than most drivers can handle safely. I have not yet been able to let my present car out "to the limit." My courage failed me at 75 m.p.h. on a wide open deserted highway, and I'd say it could have done better than 90 if I were that foolish.

We should perhaps add that we were not only impressed with this subscriber's intelligent observations, but we were pleased by his further comment that in buying his cars he had been guided in part by Consumers' Research directly, and for the rest by his own application of our methods. He also noted that he had been a subscriber to Consumers' Research since 1929 and figured that he was several thousand dollars ahead through following our advice.

We hope that the recent slump in automobile buying will stimulate manufacturers to take into account the complaints of intelligent consumers (not the bouquets their market survey experts collect from those consumers who think that anything new and different is better), and that the future models will see an improvement in design with emphasis on economy and efficiency in transportation rather than on luxurious styling, gadgets, and recklessly fast speed possibilities. From the letters of criticism of automobiles that we receive, we have reason to believe that there is demand for rugged serviceability, economy in gasoline consumption, and convenience in operation under adverse conditions such as ease of starting in bad weather and accessibility of tires for putting on chains or changing a flat, and emphasis on all-weather safety in driving with the best possible view of the road through windshield and rear window, rather than on power and speed. Last but perhaps the most important is the need for lower-priced cars with all necessary accessories, but none added just to bring up the price and the dealer's profit margin.

It is perhaps an opportune time to point out that one of the foremost manufacturers made a name for himself and his automobile by bringing out a car that just ordinary folk could afford, and he quickly acquired *millions* of customers. That sort of opportunity may again be facing some enterprising industrialist who would like to see automobiles again sold as fast as they can be turned off the assembly lines.

Corrections and Emendations to Consumers' Research Monthly Bulletins

Portable Electric Hand Drills
Pages 7-8
Feb. '54 Bulletin

A re-check of the test results has disclosed that errors were made in calculating the values for stalled torque. In the listings of the *Craftsman*, Sears-Roebuck's Cat. No. 9—2577, and the *Cummins Model 38*, delete the sentences "Failed federal specifications for stalling torque" and change the rating of the *Craftsman* from *B. Intermediate* to *A. Recommended*. The rating of the *Skil Home Shop Model 518, Type 2*, should be changed from *A. Recommended* to *B. Intermediate*; this drill failed the federal specifications for stalling torque. The *Cummins 44 Ball Rite met* federal specifications for standard duty drills.

Masthead
Page 2
May '54 Bulletin

Through a printer's error, the date May 1953 appears below the picture, in some copies of the May 1954 issue.

Don't leatherize your skin when you suntan
Don't be a paleface—now you can have a glamorous, coppery tan!
Stops spot burning of nose, lips, shoulders
Take the burn out of sunburn
Lets you tan-never burn
Now! Exclusive screening formula gives you a lovelier tan
... for fast, cool relief

To Tan Without Burning—

Sunscreen Preparations Can Help

THE summer vacation is not considered a success by some people unless they acquire a deep tan as proof that they have had a wonderful time. If a good foundation has been laid by preliminary periods of exposure, the modern sun worshiper can undoubtedly increase the intensity to that shade of "coffee with cream" which is so fashionable, in a period of two weeks. The city guys and gals who try to acquire the nutbrown look in two weeks from scratch are more likely to resemble a broiled lobster in color, with unsightly, uncomfortable peeling and shedding skin unless they are careful to apply a cream or lotion containing an effective sunscreen at frequent intervals when they are out in the sun.

Exposure to the sun is best taken in small doses at first to allow the skin to build up its own surface protection against bright sun. It has been estimated that the normal response of untanned skins to exposure to midsummer sunlight is likely to follow a timetable like this:

20 minutes, visible reddening of the skin;
50 minutes, vivid reddening;
100 minutes, painful burn;
200 minutes, blistering burn.

The various commercial creams and lotions containing substances which filter out the ultraviolet light that produces a burn can extend the length of time for safe exposure to the sun's rays, although it should be emphasized that a single application does not afford sufficient protection to enable one to spend the entire day on a sunny beach with impunity. *Avoiding overexposure* is still considered more important than the use of any sunscreen. Those who yearn for a smooth, tawny look should bear in mind that overdoses of sun rob the skin of natural oils and leave it dry and coarse, and more susceptible to wrinkles.

There is a multitude of preparations on the market designed to lengthen the period during which the skin may be exposed to the sun before burning. These preparations, customarily advertised as sunburn preventives, contain a sunscreen substance or chemical. Since they are defined by the provisions of the Federal Food, Drug, and Cosmetic Act as drugs, they are required to declare their essential ingredients on the label. Other preparations which simply claim to act as an aid in acquiring a tan are regarded as cosmetics and are not required to list their ingredients on the label, although they sometimes contain a sunscreen and may be effective in preventing sunburn. There are still other preparations that can be considered as treatments for sunburn, for alleviating the pain and irritation of a burn. They, too, are to be classified as drugs and must declare their essential ingredients on the label. It is difficult for the average consumer to tell from the advertising into which of these three classes some particular

product will fall. As for the third type, designed for alleviating the pain and discomfort and other unhappy effects of overexposure, it is well to keep in mind that sunburn, like any other burn, can have serious effects on health. If it is at all severe, it had best be treated by the family physician.

Not only direct rays from the sun, but skylight as well from the entire sky during midday in midsummer can do harm; skylight can be as effective as direct sunlight in causing sunburn. At a time of day when the sun is only twenty degrees above the horizon, skylight from the entire sky is several times more effective than direct sunlight. Persons with sensitive skins should beware of long exposures to large areas of sky even while basking in the shade.

Owing to the absorption of short-wave ultraviolet energy in the upper regions of the atmosphere, the spectrum of sunlight reaching the earth's surface ends rather abruptly near a wave length of 2900A (the Angstrom unit is used in measurement of wave lengths, and is approximately 4 billionths of an inch). Inasmuch as skylight is scattered sunlight, this wave length also represents the short-wave lower limit of skylight. The ultraviolet energy most effective in causing sunburn is in the spectral region between 2950A and 3150A. The effectiveness rapidly *decreases* with increasing wave length. The intensity of ultraviolet energy in sunlight and skylight, however, rapidly *increases* with increasing wave length. These two opposing factors—decrease of *effectiveness of ultraviolet* in causing sunburn with increasing wave length and increase of *ultraviolet energy intensity* with increasing wave length—must be taken into account in appraising the effectiveness of sunburn lotions and creams.

Inasmuch as the erythemal or skin-reddening effectiveness of ultraviolet energy of wave length 3150A in producing sunburn is only about one percent as great as energy of maximal effectiveness, and the energy in sunlight of wave lengths shorter than 2950A is generally negligible, the transmittancy of lotions and creams is of practical importance chiefly for the spectral range from 2950A to 3150A.

CR's Tests

In order to evaluate the effectiveness of a number of commercial sunscreen preparations, CR submitted samples to a competent laboratory for determination of their ultraviolet transmittancy curves, according to the usual procedure for such determinations, using the Beckman Model DU Photoelectric Spectrophotometer equipped with hydrogen discharge light source. The samples were placed in an optical-plane quartz cell in such a manner that the thickness of the observed film was 0.001 inch. For pur-

Table showing the relative transmittancy of products tested, in terms of 100 for the sample most transparent to solar energy, in the spectral range from 2950A to 3150A inclusive. (Transmittancy data obtained for samples 0.001 inch in thickness.)

Brand	Relative Transmittancy (2950A-3150A)	Order of Rank	Relative Protection
CREAMS			
Helena Rubinstein	0.7	1	Excellent
Coppertone	1.0	2	Excellent
Lanotan	1.5	3	Excellent
Dorothy Gray	10.5	9	Poor
Ardena Sun-Pruf	27.0	10	Poor
LOTIONS			
Tartan	3.7	4	Good
Gaby	4.0	5	Good
Coppertone Sun Tan Oil	4.4	6	Good
Spray Tan	5.2	7	Good
Skol	9.6	8	Poor
Sutra	70.1	11	Poor
Noxzema's Suntan Lotion	100.0	12	Poor

poses of reference, it may be noted that applicable military specifications allow "not more than 1% ultraviolet light (2,900 to 3,150 Angstrom units) transmission when a film thickness of 0.001 inch . . . is tested . . . ."

In actual use of a sunburn cream or lotion, the thickness of the film applied to the skin may vary considerably. This fact combined with the variations in sensitivity of human skin may produce differences in results. The basic fact of importance is the ultraviolet transmittancy of commercial preparations for solar energy in the spectral range from 2950A to 3150A inclusive. It is impracticable to devise an absolute borderline dividing satisfactory preparations from unsatisfactory ones, but it is clearly possible to make harmless preparations whose transmittancy is very low for energy in the important spectral range. Therefore, those appraised as *excellent* from this viewpoint can be recommended and those appraised as *poor* are not to be recommended. It appears possible that those in the *poor* category were not adequately tested by the manufacturers as sunburn preventives. The lotions appraised as *good* could be used with reasonable exposure if a lotion were preferred to a cream.

The secret of acquiring a good tan is to reduce greatly the incidence of the short-wave ultraviolet energy in sunlight and skylight so that only a mild sunburn results from the first few exposures. After choosing a suitable lotion or cream, the user can readily determine on an individual basis a suitable exposure period, which can be increased as tanning progresses.

Prices do not include federal excise tax. Ratings are cr54.

A. Recommended

CREAMS

Coppertone (Douglas Laboratories Corp., Miami 42, Fla.) 3 oz., $1 (33c per oz.). Active ingredient not declared on label. Relative protection in the spectral range from 2950A to 3150A inclusive, excellent.

Helena Rubinstein Sun and Windproof Cream (Helena Rubinstein, Inc., 655 Fifth Ave., New York 22) 2 oz., 75c (38c per oz.). Active ingredient declared on label: dipropylene glycol salicylate. Relative protection, excellent; best of all products tested.

Lanotan Vitamized Suntan Cream (Peau d'Or Sales Corp., Miami, Fla.) 3 oz., $1 (33c per oz.). Active ingredients declared on label: lanolin, cocoa butter, cocoanut oil, meta homo menthyl salicylate, and 50,000 U.S.P. units sunshine vitamin D. There would not appear to be any useful function served by the inclusion of vitamins in a skin cream, particularly one that is designed to be applied to the skin in the presence of sunlight which is in itself an excellent source of vitamin D. Relative protection, excellent.

B. Intermediate

LOTIONS

None of the lotions was found to provide as effective protection as the best of the creams.

Coppertone Sun Tan Oil (Douglas Laboratories Corp.) 4 oz., $1 (25c per oz.). Active ingredient not declared on label. Relative protection, good.

Gaby Greaseless Suntan Lotion (Gaby Co., 1825 N. 6, Philadelphia 22) 2 oz., 35c (18c per oz.). Active ingredient not declared on label. Relative protection, good.

Spray Tan (Spray Tan Inc., 2 Sherwood Ave., Baltimore 8) 6 oz., $1.50 (25c per oz.). Active ingredient not declared on label. Relative protection, good.

Tartan Suntan Lotion (McKesson & Robbins, Inc., 155 E. 44 St., New York 17) 1-3/4 oz., 39c (22c per oz.). Active ingredients declared on label: monoglycerylester of p-aminobenzoic acid and di-isobutyl cresoxy ethoxy ethyl di-methyl benzyl ammonium chloride. Relative protection, good.

C. Not Recommended

CREAMS

Ardena Sun-Pruf Cream, No. 2 (Elizabeth Arden, 581 Fifth Ave., New York 22) 3 oz., $1.50 (50c per oz.). Active ingredient not declared on label. Relative protection, poor.

Dorothy Gray Sunburn Cream (Dorothy Gray Ltd., 445 Park Ave., New York 22) 4-3/4 oz., $1 (21c per oz.). Active ingredients declared on label: dipropylene glycol salicylate and isobutyl para-aminobenzoate. Relative protection, poor.

LOTIONS

Noxzema's Greaseless Suntan Lotion (Distributed by Noxzema Chemical Co., Baltimore) 3 oz., 57c (19c per oz.). Active ingredient declared on label: cycloform [isobutyl para-aminobenzoate]. Relative protection, poor.

Skol (The J. B. Williams Co., Glastonbury, Conn.) 3/8 oz., 10c (27c per oz.). Active ingredients declared on label: hexahydroxyethyl, tannic acid, propylene glycol, p-aminobenzoate, menthol. Relative protection, poor.

Sutra (Distributed by Artra Cosmetics, Inc., Montclair, N.J.) 6 oz., $1 (17c per oz.). Active ingredient declared on label: hydroquinone. Relative protection, poor.

Brief Report on Color Television

IN A RECENT NUMBER of an advertising trade journal, mention was made of the color television sets that have been sold by Westinghouse in the period since these sets first became available, a month or two ago, in the city and suburban area close to New York City. Observers for Consumers' Research sat through NBC live color broadcasts and commercials viewed on a *Westinghouse Model H840CK15*. This set had been installed in a tavern in a rural district near Dover, New Jersey, about 40 miles from the telecasting tower on the Empire State Building. The tavern was at a fairly high elevation, well located from the standpoint of television reception from New York City, and was within view on a clear day of the city's skyline.

The live broadcast was an undistinguished one; the program was such that hardly any part of it would have been of sufficient interest in itself to warrant one's spending the time and effort—and expense—to look at it. Picture quality was not good, and was, at times, poor to mediocre. This was not the fault of the receiver, however, for the quality of the commercials was strongly realistic and vivid. Typical commercials were shown of attractive packages, and a woman mixing and baking a cake. These were exceedingly well presented, and very satisfying both as to color and rendition of motion. One has the suspicion that perhaps at the present time the color programs are being directed toward potential advertising sponsors for future programs rather than to the general public. A trade expert, in commenting on the problem, expressed the opinion that the impact of commercials in color is enormously greater on consumers than corresponding advertising in black and white.

The tendency toward a pale, washed-out appearance in some of the scenes may have been due either to defects of studio equipment, inexpert studio production techniques, or to a deliberate attempt at the present time to emphasize the commercials. The set was viewed at varying distances from six to fifteen feet. Contrast and brightness were good (brightness might perhaps not be fully satisfactory for daytime viewing on a bright day). Definition was satisfactory all over the screen, and no flicker was apparent. Even metallic objects were very clearly distinguishable as bright metal. However, backgrounds in the studio were still on a black and white basis and so had not been properly adapted to color pictures.

In the tavern where this set was shown, most of the customers were watching a baseball game on a black-and-white TV set, by preference for the program; they were not at all interested in the picture on the color set. They were evidently not interested in color television as an art and technique, or perhaps the first novelty had worn off for them.

Brief comments from a qualified expert who has been observing an *RCA* set (36 tubes plus 2 selenium rectifiers) over a period of several weeks appear to indicate that its performance is similar to that of the *Westinghouse*. He also commented that he thought the average viewer will want a larger screen than the size now offered.

Color programming is extremely limited at the present time. There are perhaps two color programs a week of one-half hour to one hour each, in the New York area. There may be occasionally a special-event program, when something important like the Easter parade comes along.

The set itself cost $1295. The service contract was available at $80. The service cost was much lower than we expected, and indeed the charge was only little more than the charge for service on black and white sets. (RCA, it is said, will charge $149.50 for their "A" [best] service contract for one year.) Some service has been required on the *Westinghouse* receiver, including the replacement, at no extra charge, of three small rectifier tubes. Other than the installation charge on the antenna, which was of normal type (rising only three or four feet above the roof), there was no charge for installation. The set operated satisfactorily from the first without special adjustment.

As to operation of the color set, the only thing that might be criticized is that the nontechnical consumer is likely to have trouble to get the set into correct adjustment and maintain it so with respect to the controls available for his use. Even the person who is adept in such matters will need time to get used to the controls; there is a relation between the setting of one and the others, which makes an ideal adjustment a matter of some complexity. There are at least three more controls requiring adjustment by the user on this color set than on

an equivalent black and white set, and false manipulation of any of the controls at the front of the set could easily produce a very unsatisfactory picture.

Interference due to operation of electrical apparatus near by was only slight, and no more objectionable than with a black-and-white receiver. Color patterns in the pictures were clearly defined without overlapping or smudging, though at times some color fringing was noticeable. There was no "snow" or other interference in evidence; unless a person was as close to the set as one would be in tuning, the raster, or dot pattern, was not noticeable at all. Sound quality was good. The receiver will project further from the wall than most TV sets, because the picture tube is considerably longer than normal.

The set gave good performance in black and white, too; it could be shifted to and from color by a turn of a knob. (Any color receiver will receive the new "compatible" black-and-white transmissions—in black and white, of course—without any special adjustment on the part of the user; few would be satisfied, however, to pay $1400 for a set for black and white, with what the industry terms a 15-inch tube, with a picture area of less than 100 square inches.) Fifty of these color sets were reported to have been sold in about two months, which represents an exceedingly small distribution when it is considered that there are something like 3,000,000 black and white sets in the New York area alone.

In conclusion, we may say that the maker of this color set, at least, seems to have done a thoroughly competent job of design and development in a field which involves enormous technical difficulties, and the Westinghouse Company is to be commended for excellent performance in engineering and production of a revolutionary new home appliance, one that in ingenious mass-production techniques may bring down to a price level that will make it a commonplace in American homes in a few years.

"Water Treatment" by Mystic Devices

AN EDITORIAL in the Electrochemical Society's journal, Electrochemical Industry, August 1953, refers to various "devices" and "packaged chemical magic" upon which a gullible public spends fantastic sums each year to "improve performance, extend life, or save money." These are battery additives, lubrication additives, pills to pep up the automobile engine, and a host of others. Referring to devices which are supposed to prevent corrosion and scale troubles in water pipes and boilers, and said to work by electrical, magnetic, or catalytic principles, the journal comments that large corporations as well as private householders are being "victimized by the persuasive promises of large savings." A nuisance aspect of the problem is the absurd request made in some localities that electrical utility companies *modify grounding installations* in the home to avoid an alleged interference with the performance of certain of these devices. In other cases, the fact that the householder had installed a magnesium anode, an effective means for retarding corrosion, in a hot-water heater tank, has been blamed for the failure of one of these "magical" devices to function as the seller had represented that it would.

Dr. R. M. Burns, writer of the editorial, remarks: "It is to be hoped that information from such sources [as the Inter-Society Corrosion Committee] will aid better business organizations in ferreting out and exposing concerns in their midst that, under the guise of respectable small businesses, would prey upon the technical ignorance of the public."

The reader should bear in mind that the public utility may not feel free to express its candid opinion of a water treatment or corrosion-prevention device of a quack character which has occasioned a home owner's request for a change in the nature of the provisions for grounding the electrical wiring in the home. The utility company engineers may have a very good reason for reticence in this case in that they may wish to avoid the expense and annoyance of a damage suit or threat of a suit, or the necessity in dealing in other ways—by conferences or correspondence—with threats or pressure exerted by the promoter of the appliance or by one of his sales representatives, who have both time and inclination for such activities.

The MontaMower

SUCH claims as "trims-as-it-mows," "smoothly cuts . . . grass, dandelions, and tall lawn weeds," and its light weight have no doubt induced many home gardeners to buy the widely advertised *MontaMower*. If the *MontaMower* could do even approximately as good a job as is shown in the pictures reproduced in its many advertisements, the appliance would perhaps be worth its high price. Unfortunately, lawns that had been cut with the *MontaMower* bore no resemblance to the smooth, even lawn shown in the advertising pictures. CR tried the *MontaMower* on different lawns under varying conditions; in no case did any of the several operators find the *MontaMower* to do as well as a mower of the conventional reel type.

The *MontaMower* does have the advantage of light weight; it weighs only 9½ pounds, while conventional hand-operated mowers weigh from 30 to 50 pounds. The *MontaMower* will also trim closer to walls, fences, trees, etc., than a conventional mower, but it does *not* trim completely, as its advertisements claim; some trimming must still be done by hand.

In moderately thick growths of grass, or grass with weeds, the *MontaMower* jammed easily, as is shown in the accompanying picture. The cutter blades could not be forced through a dense stand of grass with a steady, continuous push as could be done easily with the conventional mower; the *MontaMower* had to be pushed and pulled back and forth, cutting only a few inches at a time before jamming again. This was true even on smooth ground; on rough or wet ground where one might experience a little difficulty mowing with a conventional mower, the *MontaMower* did not cut grass effectively. Because of the jamming and the necessity of pushing and pulling the mower back and forth with short strokes, it took nearly twice as long to cut a swath through an average lawn at an early-spring stage of growth with the *MontaMower* as to cut an equivalent swath with the conventional mower.

The other important fault of the *MontaMower* besides its difficulty of operation was the poor result it gave. When a section of lawn was cut in alternate strips about 6 feet wide with the *MontaMower* and the conventional mower, the strips that had been traversed with the *MontaMower* seemed almost not to have been cut at all, compared with the strips mowed with a regular mower. Moreover, remowing was necessary several days sooner on those strips cut by the *MontaMower* than on the others.

The MontaMower jammed in dense grass which was cut easily by a conventional mower.

The manufacturer is apparently aware that the *MontaMower* will be unsatisfactory to many purchasers, for his "On Approval Trial Offer" provides for full credit allowance against the purchase of one of his conventional mowers, or a cash refund less $7.50 said to be required to provide for installation of new cutting disks on the returned *MontaMower*.

C. Not Recommended

MontaMower (MontaMower Distributing Co., Keeler Bldg., Grand Rapids 2, Mich.) $30, plus shipping charges. 9½ lb. Cutting effectiveness found poor as compared with conventional mowers; jammed easily in heavy, closely-growing grass.

A Top Brand, A Top Price, Do Not Assure Performance—or Service

IN April 1950 I bought a watch at almost $350, with assurance that it was a lifetime watch. After a year, the dial face turned color, the plastic crystal became unclear, and I took it to the distributor. A complete overhaul "to make a new watch of it," was $16, and took two months. A year later it stopped running entirely, again the face was discolored, the crystal unclear. The repairs this time were $21.50 and took 10 weeks. My objections were answered only with platitudes.

New York State Subscriber

Ratings of Motion Pictures

THIS section aims to give critical consumers a digest of opinion from a wide range of motion picture reviews, including the motion picture trade press, leading newspapers and magazines — some 19 different periodicals in all. The motion picture ratings which follow thus do not represent the judgment of a single person, but are based on an analysis of critics' reviews.

The sources of the reviews are:

Box Office, Cue, Daily News (N.Y.), The Exhibitor, The Farm Journal, Films in Review, Harrison's Reports, Joint Estimates of Current Motion Pictures, Motion Picture Herald, National Legion of Decency, Newsweek, New York Herald Tribune, New York Times, New York World-Telegram & Sun, Parents' Magazine, Release of the U. A. E. Preview Committee, Reviews and Ratings by the Protestant Motion Picture Council, *Time, Variety* (weekly).

The figures preceding the title of the picture indicate the number of critics who have been judged to rate the film A (recommended), B (intermediate), or C (not recommended) on its entertainment values.

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

adv—adventure
biog—biography
c—in color (Technicolor, Cinecolor, Trucolor, Magnacolor, Vitacolor, etc.)
car—cartoon
com—comedy
cri—crime and capture of criminals
doc—documentary
dr—drama
fan—fantasy
hist—founded on historical incident
mel—melodrama
mus—musical
mys—mystery
nov—dramatization of a novel
rom—romance
sci—science fiction
soc—social problem drama
trav—travelogue
war—dealing with the lives of people in wartime
wes—western

A	B	C		
—	1	3	**About Mrs. Leslie**	*dr A*
1	9	7	**Act of Love**	*war-dr A*
—	4	10	**Alaska Seas**	*mel A*
—	4	1	**Always a Bride (British)**	*com A*
—	1	4	**Angels One Five (British)**	*war-dr AY*
—	1	4	**Anita Garibaldi (Italian)**	*hist-dr A*
2	5	4	**Annapurna**	*doc-c A*
—	—	3	**Appointment for Murder (Italian)**	*cri-mel A*
—	1	12	**Appointment in Honduras**	*mel-c A*
—	5	1	**April 1, 2000 (Austrian)**	*fan A*
—	2	3	**Arrow in the Dust**	*mel-c AYC*
—	3	10	**Bad for Each Other**	*dr A*
—	3	10	**Bait**	*mel A*
—	3	5	**Battle of Rogue River**	*mel-c AYC*
—	7	6	**Beachhead**	*war-dr-c A*
—	8	6	**Beat the Devil**	*cri-dr A*
1	7	4	**Beauties of the Night (French)**	*dr A*
4	11	4	**Beggar's Opera, The (British)**	*mus-dr-c A*
—	12	5	**Beneath the 12-Mile Reef**	*mel-c A*
—	5	6	**Bigamist, The**	*dr A*
—	4	1	**Bitter Creek**	*wes AYC*
—	2	2	**Blackout (British)**	*mys-mel A*
—	4	6	**Border River**	*mel-c A*
—	9	3	**Both Sides of the Law (British)**	*cri-mel A*
—	8	2	**Boy from Oklahoma, The**	*wes-c AYC*
—	1	6	**Captain John Smith and Pocahontas**	*hist-dr-c A*
—	8	5	**Carnival Story**	*mel-c A*
1	5	7	**Casanova's Big Night**	*com-c A*
—	2	4	**Cat-Women of the Moon**	*sci A*
4	9	2	**Cease Fire**	*war-dr AY*
—	—	7	**Charge of the Lancers**	*mel-c A*
—	—	—	**City is Dark, The (see Crime Wave)**	
—	14	2	**Command, The**	*wes-c AYC*
7	5	—	**Conquest of Everest, The (British)**	*doc-c AY*
1	5	—	**Cowboy, The**	*wes-doc-c AYC*
—	6	2	**Creature from the Black Lagoon**	*sci AY*
—	12	3	**Crime Wave**	*cri-mel A*
—	4	6	**Dangerous Mission**	*cri-mel-c AY*
—	1	2	**Destination Matrimony (Italian)**	*com A*
1	3	2	**Dial M for Murder**	*cri-mel-c A*
—	3	5	**Diary of a Country Priest (French)**	*dr A*
—	3	2	**Dragonfly Squadron**	*war-dr A*
—	—	9	**Dragon's Gold**	*mel AYC*
—	7	7	**Drive a Crooked Road**	*mel A*
—	3	6	**Drums of Tahiti**	*mel-c A*
—	2	10	**Duffy of San Quentin**	*soc-dr A*
1	9	3	**Easy to Love**	*mus-com-c A*
1	7	6	**Eddie Cantor Story, The**	*mus-biog-c AYC*
—	1	6	**El Alamein**	*war-mel AYC*
—	8	4	**Elephant Walk**	*nov-c A*
1	13	1	**Escape from Fort Bravo**	*mel-c AYC*
3	6	1	**Executive Suite**	*nov A*
—	1	6	**Fake, The**	*mel A*
—	2	2	**Fangs of the Wild**	*mel A*
—	5	—	**Fighter Attack**	*war-dr-c AY*
—	10	1	**Final Test, The (British)**	*com AYC*
—	4	2	**Fireman Save My Child**	*com AYC*
1	1	3	**Flame and the Flesh**	*mel-c A*
—	4	5	**Flight Nurse**	*war-dr AYC*
—	2	5	**Folly to be Wise (British)**	*com A*
—	5	9	**Forbidden**	*cri-mel A*
—	3	4	**French Line, The**	*mus-dr-c A*
—	—	4	**Fugitive in Trieste (Italian)**	*dr A*
3	13	—	**Genevieve (British)**	*com-c A*
—	2	3	**Genoese Dragnet (Italian)**	*mel A*
—	3	3	**Geraldine**	*mus-com AYC*
—	5	5	**Give a Girl a Break**	*mus-com-c AY*
8	8	1	**Glenn Miller Story, The**	*mus-biog-c AYC*
1	10	2	**Go, Man, Go**	*dr AYC*
1	7	3	**Golden Coach, The (Italian)**	*dr-c A*
—	7	4	**Golden Mask, The**	*adv-c A*
—	2	8	**Great Diamond Robbery, The**	*cri-com AYC*
—	2	10	**Greatest Love, The (Italian)**	*dr A*
—	3	4	**Guilt is My Shadow (British)**	*mys-mel A*
1	4	3	**Gun Fury**	*wes-c A*
2	9	—	**Gypsy Colt**	*dr-c AYC*
2	12	1	**Heidi (Swiss)**	*dr AYC*
1	6	6	**Hell and High Water**	*war-dr-c AYC*
—	1	12	**Hell's Half Acre**	*mel A*
—	2	8	**Highway Dragnet**	*cri-mel A*

A	B	C		
—	2	4	**His Last 12 Hours (Italian)**	*dr A*
1	10	2	**His Majesty O'Keefe**	*adv-c AY*
3	8	1	**Holly and the Ivy, The (British)**	*dr A*
8	7	—	**Hondo**	*wes-c AY*
—	9	2	**Horse's Mouth, The (British)**	*com AYC*
—	3	2	**Hot News**	*mel A*
—	2	7	**Indiscretion of An American Wife**	*dr A*
—	2	8	**Intimate Relations (British)**	*soc-dr A*
—	4	2	**Iron Glove, The**	*hist-mel-c AYC*
4	12	1	**It Should Happen to You**	*com A*
—	2	4	**Jennifer**	*mys-dr A*
—	2	6	**Jesse James vs. the Daltons**	*mel-c A*
—	2	7	**Jivaro**	*adv-c A*
—	2	2	**Johnny Guitar**	*wes-c A*
—	4	5	**Jubilee Trail**	*wes-c A*
—	—	8	**Killer Ape, The**	*mel AYC*
—	—	8	**Killers from Space**	*sci AY*
1	10	3	**King of the Khyber Rifles**	*mel-c AYC*
8	9	2	**Knights of the Round Table**	*adv-c AYC*
4	10	2	**Knock on Wood**	*com-c AYC*
—	1	4	**La Favorita (Italian)**	*mus-dr A*
—	2	4	**La Lupa (Italian)**	*dr A*
—	3	4	**La Ronde**	*dr A*
—	1	4	**Last of the Pony Riders**	*mus-wes AYC*
—	5	2	**Laughing Anne**	*mel-c A*
—	1	4	**Limping Man, The**	*mys-mel A*
—	5	2	**Liv.ng It Up**	*mus-com-c AYC*
—	2	3	**Lone Gun, The**	*wes-c AYC*
—	4	3	**Lonely Night, The**	*doc-dr A*
2	11	4	**Long, Long Trailer, The**	*mus-com-c AYC*
—	2	1	**Long Wait, The**	*cri-mel A*
—	5	2	**Loophole**	*mys-mel A*
—	—	3	**Lovers of Toledo (French)**	*dr A*
—	—	4	**Lucky Five, The (Italian)**	*dr A*
—	7	2	**Lucky Me**	*mus-com-c AYC*
—	1	5	**Lure of the Sila (Italian)**	*mel A*
—	5	2	**Ma and Pa Kettle at Home**	*com AYC*
—	3	3	**Mad Magician, The**	*cri-mel A*
—	5	5	**Make Haste to Live**	*cri-mel A*
2	8	4	**Man Between, The (British)**	*war-mel A*
—	1	8	**Man Crazy**	*soc-dr A*
—	1	7	**Man from Cairo, The**	*mel A*
—	—	5	**Man in Hiding (British)**	*mys-mel A*
—	10	5	**Man in the Attic**	*cri-dr A*
—	2	4	**Man of Conflict**	*dr AY*
—	1	6	**Massacre Canyon**	*wes A*
—	—	3	**Melody of Love (Italian)**	*mus-dr AYC*
—	3	—	**Men of the Fighting Lady**	*war-dr A*
—	6	1	**Miami Story, The**	*cri-mel A*
—	1	5	**Miss Robin Crusoe**	*dr-c A*
2	5	8	**Miss Sadie Thompson**	*mel-c A*
—	2	1	**Mistress of the Mountains (Italian)**	*dr A*
—	3	3	**Moment of Truth, The (French)**	*dr A*
1	3	9	**Money from Home**	*com-c AY*
—	—	3	**Monsoon**	*mel A*
—	3	3	**My Heart Sings (Italian)**	*mus-dr A*
—	12	3	**Naked Jungle, The**	*dr-c A*
—	1	8	**Nebraskan, The**	*wes-c A*
3	7	5	**New Faces**	*mus-com-c A*
3	9	—	**Night People**	*mys-mel-c A*
1	3	1	**Othello**	*dr A*
2	4	—	**Out of this World**	*trav-c AYC*
—	2	7	**Overland Pacific**	*wes-c A*
—	7	5	**Paratrooper**	*war-dr-c AY*
—	—	9	**Paris Model**	*dr A*
—	1	4	**Paris Playboys**	*com AYC*
—	1	7	**Passionate Sentry, The (British)**	*com A*
A	B	C		
2	6	3	**Personal Affair (British)**	*mel A*
—	5	4	**Phantom of the Rue Morgue**	*cri-mel-c A*
3	5	2	**Pickwick Papers, The (British)**	*dr AYC*
—	2	3	**Pit of Loneliness**	*soc-dr A*
—	2	4	**Playgirl**	*dr A*
—	—	3	**Pleasure Garden, The (British)**	*fan A*
—	4	2	**Pride of the Blue Grass**	*dr-c AYC*
2	7	2	**Prince Valiant**	*adv-c AYC*
—	1	4	**Prisoner of War**	*war-dr A*
—	1	9	**Prisoners of the Casbah**	*adv-c A*
—	2	7	**Queen of Sheba (Italian)**	*dr A*
—	6	1	**Queen's Royal Tour, A (British)**	*doc-c AYC*
—	2	4	**Racing Blood**	*mel AYC*
—	4	2	**Rails into Laramie**	*wes-c A*
1	12	6	**Red Garters**	*mus-wes-c A*
—	3	3	**Red River Shore**	*wes AYC*
2	6	9	**Rhapsody**	*mus-dr-c A*
1	7	1	**Ride Clear of Diablo**	*wes-c A*
2	7	4	**Riders to the Stars**	*sci-mel-c AYC*
—	4	3	**Riding Shotgun**	*wes-c AYC*
2	13	2	**Riot in Cell Block 11**	*soc-mel A*
—	5	2	**River of No Retura**	*mel-c A*
3	11	1	**Rob Roy**	*adv-c AYC*
—	2	3	**Rocket Man**	*sci AYC*
1	7	4	**Rose Marie**	*mus-dr-c AYC*
1	4	10	**Saadia**	*mel-c AY*
—	6	2	**Saint's Girl Friday, The**	*mys-mel A*
—	2	9	**Salt of the Earth**	*propaganda-soc-doc A*
1	8	6	**Saskatchewan**	*mel-c A*
—	1	6	**Scarlet Spear, The**	*mel-c A*
—	2	4	**Secret Document (Viennese)**	*dr A*
—	1	4	**Sensualita (Italian)**	*dr A*
—	1	3	**Shadow Man**	*mys-mel A*
—	1	6	**Shark River**	*mel-c A*
—	8	5	**She Couldn't Say No**	*com A*
—	8	3	**Siege at Red River, The**	*mel-c AYC*
—	2	8	**Sins of Jezebel**	*dr-c A*
—	6	3	**Song of the Land**	*doc-c AYC*
—	4	—	**Southwest Passage**	*wes-c A*
1	5	2	**Spice of Life (French)**	*com A*
—	5	—	**Stormy, the Thoroughbred**	*doc-c AYC*
—	3	8	**Stranger on the Prowl**	*propaganda-dr A*
—	6	3	**Taza**	*mel-c AYC*
—	7	4	**Tennessee Champ**	*com-c A*
—	1	3	**Terror Street (British)**	*cri-mel A*
—	1	2	**Texas Bad Man**	*mel AYC*
2	3	—	**Them**	*sci A*
—	3	10	**Three Sailors and a Girl**	*mus-com-c A*
—	2	10	**Three Young Texans**	*mel-c A*
—	5	6	**Thunder Over the Plains**	*mel-c AYC*
—	9	4	**Top Banana**	*mus-com-c A*
1	8	1	**Tumbleweed**	*wes-c AYC*
—	4	4	**Turn the Key Softly (British)**	*dr A*
—	—	5	**Undercover Agent (British)**	*mel A*
—	1	2	**Unknown Lover, The (Italian)**	*dr A*
—	1	3	**Untamed Heiress**	*com AYC*
—	—	7	**Violated**	*cri-mel A*
—	7	10	**Walking My Baby Back Home**	*mus-com-c A*
—	3	5	**War Arrow**	*war-mel-c AY*
—	1	4	**White Fire (British)**	*mel A*
—	2	2	**White Hell of Pitz Palu, The**	*dr A*
2	4	—	**White Mane**	*dr A*
—	3	11	**Wicked Woman**	*dr A*
—	4	12	**Wild One, The**	*mel A*
—	6	5	**Witness to Murder**	*cri-mel A*
—	1	5	**World for Ransom**	*mel AY*
—	6	8	**Yankee Pasha**	*adv-c A*
—	2	2	**Yellow Balloon (British)**	*cri-mel A*
—	8	4	**Yesterday and Today**	*dr AYC*

The Consumers' Observation Post

(*Continued from page 4*)

It would appear that the latter might be planned as a subtle promotion campaign which would have the effect of encouraging more extensive cigarette smoking by teen-agers--hardly a proper subject for a publicity campaign, in our view.

* * *

COTTAGE CHEESE AND OTHER TYPES OF SOFT CHEESES should be carefully checked at intervals by sanitary inspectors throughout the country. The fact that such cheeses are made from pasteurized milk is not sufficient to assure freedom from dangerous bacteria, for improper handling, lack of proper refrigeration, and packing under filthy conditions may produce cheese that is too high in bacterial count. In the State of New Jersey, for example, a survey in one town alone of 18 brands of cottage and creamed cottage cheese revealed that 13 brands had a coliform bacteria level that was much too high, with molds and yeasts numerous in many samples that were supposed to be fresh. The sanitary inspector secured excellent cooperation by advising the local stores of the findings, and most of the cheese processors promptly took voluntary steps to clean up the situation.

* * *

THE COLOR OF AN AUTOMOBILE is an important safety factor. According to a study by investigators at the University of California, certain colors make objects appear closer than other colors. Blue and yellow objects, for example, appeared to be up to six feet closer than objects of other colors at the same distance. The investigators pointed out that a distance of six feet might be the difference between life and death for an automobile driver making a decision on when to put on his brakes. They concluded that a two-tone car of blue and yellow would be one of the safest color combinations since dark blue is seen more easily in daytime and fog while the lighter yellow is more easily seen at night.

* * *

KEEPING THE HOME CLEAN would be a lot simpler if it were designed for easy maintenance, as many business offices are. On the other hand, the homelike atmosphere would be lost to some extent. Here are some hints, however, by Bernard Zwirn of the Handi-Man Company for designing office and building interiors for speedy cleaning that perhaps can be adapted in planning a new home. Ceilings not higher than 8 feet can be cleaned from the

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floor with short tools or a short ladder. Air-conditioning systems which take in outside air and blow it through the building without filtering add to the problem of cleaning. Fewer interior glass partitions mean a great saving in cleaning time. In carpeting, the shorter the pile the easier the daily task of vacuum cleaning. A piece of carpet at the door where children enter will remove much dirt, mud, and grit from their shoe soles and prevent it from reaching more valuable rugs elsewhere.

* * *

NYLON FABRICS ARE SOMETIMES DIFFICULT TO CLEAN along seams and rough edges where dirt particles cling with great determination. The solution to the difficulty, recommended by the U.S. Department of Agriculture, is to soak the garment in water containing a non-precipitating water softener such as Calgon before washing, in order to loosen the soil somewhat. It is important also never to wash white nylon with any colored fabrics.

* * *

YOGURT, which is milk fermented by a special culture, has been the subject of investigation by the Federal Trade Commission. The Yami Yogurt Products, Inc., and an officer trading as the International Yogurt Company have agreed to stop claiming that yogurt promotes digestion or intestinal hygiene, restores or insures good health, and is effective in preventing a wide variety of ailments and diseases. The Commission's action does not prohibit advertisements representing that Yami Yogurt "is a recommended dietary supplement for individuals suffering from certain intestinal or digestive disturbances."

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HOW TO REMOVE FOOD STAINS from plastic dishes without using an abrasive that might scratch their surface is a problem that has troubled many homemakers. One foresighted manufacturer of a melamine plastic dinnerware provides the names of several brands of detergents or bleaches in which the stained plastic cup or other dish may be soaked to remove coffee and tea stains, although it is admitted that the discoloration may eventually resist removal. The commercial preparations suggested as safe and effective were: Ozo (Turco Products, Inc., Los Angeles 54); K.I.K. (Maid-Easy Cleansing Products Corp., Mount Vernon, N.Y.); and SAR-7 (Antiseptol Co., Chicago 30). Other compounds that have been suggested by other sources are: PB-9 Plasticware Bleach (Economics Laboratory, Inc., St. Paul 1); and Plastic Dip (Scott Detergents, Philadelphia 10).

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Phonograph Records

BY WALTER F. GRUENINGER

Please Note: The first symbol applies to quality of interpretation, the second to fidelity of recording.

Beethoven: *Sonatas Nos. 7* and *8*. Francescatti and Casadesus (violin and piano). Columbia ML 4861. $5.95. What a fine record this is! Two masterpieces brilliantly performed by two master musicians. It's a long time since Francescatti has sounded so right. **AA AA**

Brahms: *Academic Festival Overture* and *Tragic Overture*. Concertgebouw Orchestra under van Beinum. London LD 9038. $2.95. van Beinum knows the score, but recording is boomy, throaty. **AA B**

Haydn: *Symphonies Nos. 53* and *67*. Vienna Symphony Orchestra under Sacher. Epic LC 3038. $5.95. Seldom heard, sparkling symphonies. Sacher's conducting is sympathetic, precise, praiseworthy. **AA AA**

Kreisler: *String Quartet in A* & **Paganini:** *String Quartet in E*. Stuyvesant String Quartet. Philharmonia PH 107. $5.95. Charming, virtuoso violin pieces, supported by three additional string instruments. Sylvan Shulman, as first violin, carries the burden and does himself proud. The circle of enjoyment will extend far beyond chamber music fans. **AA A**

The Wonderful Waltzes of Richard Rodgers. Paul Britten and His Orchestra. MGM E 197. $3. "Carousel Waltz," "Oh What a Beautiful Morning," "I'm in Love with A Wonderful Guy," etc., played by a small orchestra and recorded with limited frequency range. **A B**

Scheidt: *Selections from Tabulatura Nova*. Noss (organ). Overtone Records LP 3. $5.95. Best of 5 releases by a new firm which draws heavily on Yale for its talent. In 5 selections from the 17th century Scheidt, we get not only the first of a series on masters of Baroque organ music, but symphathetic playing and outstanding recording of the 1951 installed Holtkamp organ of Battell Chapel. **AA AA**

Stravinsky: *Le Sacre du Printemps*. Pittsburgh Symphony Orchestra under Steinberg. Capitol P 8254. $5.70. Stravinsky's music for a ballet about human sacrifice finds its way into concert halls and on records rather frequently nowadays. The rhythm in this performance is less accented than I have heard and the forward drive less compelling. In other respects Steinberg and Capitol have done a praiseworthy job. . . .But what Steinberg lacks, Dorati and the Minneapolis Symphony offer in Mercury MG 50030 which is highly recommended for performance and will serve hi-fi fans as a demonstration record. **A A**

Verdi: *Aida—Gia i sacerdoti* (duet) and *Final Scene* (duet). Del Monaco, Stignani, Tebaldi. London LD 9077. $2.95. Del Monaco sings with too little subtlety, but the others are excellent. **A A**

Verdi: *Il Trovatore* (abridged). Soloists, Chorus, Netherlands Philharmonic Orchestra under Goehr. Musical Masterpiece Society MMS 2008. $2.50. (250 W. 57 St., New York City.) This society sells abridged operatic sets by mail. I have heard *Carmen, Marriage of Figaro* and *Il Trovatore*. The singers, unknown to me, for the most part are Dutch trained and probably young. The conductor in these sets is Goehr. Fidelity is quite satisfactory, surfaces are quiet. The performances never achieve the level of the best operatic sets available, but *Il Trovatore* is my choice of the three. **B A**

Mahler: *Symphony No. 6* ("Tragic"). Vienna Philharmonia Orchestra under Adler. 4 sides, SPA 50/60. $11.90. From SPA Records, an enterprising Saratoga Springs, N. Y., firm, come half a dozen new releases of which this is the most likely to succeed. It's the only recording of a symphony rarely performed, partly because of the staggering size of the orchestration and partly, I suppose, because it takes 82 minutes to deliver its message. But Mr. Adler and the Vienna Philharmonia play it as though they loved it which is quite well, indeed, and those who want to explore and study the fringes of the standard orchestral repertoire may find it worth owning . . . .In the same family is Bruckner's *Symphony No. 3* which is better performed and no less well recorded by the same artists on SPA 30/31. **A A**

Tagliavini—Arias from the Opera (tenor). Cetra A50155. $5.95. Recorded before 1948, but fidelity is quite satisfactory. Big tenor scenes from *Tosca, Rigoletto, Falstaff, Barber of Seville*, etc. **AA A**

Vaughan Williams: *The Wasps* and *Old King Cole*. Philharmonic Promenade Orchestra under Boult. Westminster WL 5228. $5.95. Two suites of British music in a rather gay vein for so solid a composer. Best of a new batch of Westminster disks. Very well played and recorded. **AA AA**

Chansons de La Belle Epoque. Vols. 1 and 2. Five French singers. Vanguard VRS 7008 and 7011. $4 each. Songs of Paris in the gay 90's add up to good light entertainment. The vocal production of all these singers is not expert but they know the style. . . .Cut from the same cloth is *Germaine Montero Sings Songs of Parisian Nights* (Vanguard VRS 7005) which is better recorded than *Chansons* and sung no less well. . .and there's *Charles Trenet* (Angel ABL 64001) in which the celebrated night club singer does eight of his numbers in French, of course, which are superbly recorded. **A A**

Jam Session. Eddie Condon's *All Stars* and *The Rampart St. Paraders*. Columbia CL 547. $3.95. There's been an improvement in the fidelity of jazz records. You might try this one, best of a recent lot of Columbia releases and of its kind, fairly entertaining. *The Rampart* side is particularly well recorded. **AA A**

The Merry Yodeler. Austrian Folk Musicians. Vanguard GRS 7004. $4. Yodels and typical Austrian village peasant band. Lots of fun. **AA AA**

Music for Jennifer. Paul Weston and His Orchestra. Columbia CL 6281. $3. Light music from the motion pictures of Jennifer Jones played by an orchestra featuring strings. **AA AA**

* * *

The tunes of *Singtime Sacred Recordings* of Van Kampen Press, Inc., Wheaton, Ill., sound more like popular ballads than the sturdy melodies of the Hymnal. And the performance is in the style of popular balladeers. I have heard 8 records—10 inch 78 rpm—selling for 89 cents each, though the selections are also available on LP and on 45 rpm. The performance, within the style, is recommended and so is the fidelity. Pressed on quiet shellac by RCA Victor. Begin with ST 1003: "Wondrous Love," sung by Bill Pearce and Dick Anthony; and "No One Understands Like Jesus," sung by Bill Pearce.

CORRECTION PLEASE: The order number for **Locatelli:** *Sonata in D* & **Frescobaldi:** *Toccata* & **Boccherini:** *Sonata in A* is Westminster WL 5243. It was incorrectly given in the April 1954 issue.

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floor with short tools or a short ladder. Air-conditioning systems which take in outside air and blow it through the building without filtering add to the problem of cleaning. Fewer interior glass partitions mean a great saving in cleaning time. In carpeting, the shorter the pile the easier the daily task of vacuum cleaning. A piece of carpet at the door where children enter will remove much dirt, mud, and grit from their shoe soles and prevent it from reaching more valuable rugs elsewhere.

* * *

NYLON FABRICS ARE SOMETIMES DIFFICULT TO CLEAN along seams and rough edges where dirt particles cling with great determination. The solution to the difficulty, recommended by the U.S. Department of Agriculture, is to soak the garment in water containing a non-precipitating water softener such as Calgon before washing, in order to loosen the soil somewhat. It is important also never to wash white nylon with any colored fabrics.

* * *

YOGURT, which is milk fermented by a special culture, has been the subject of investigation by the Federal Trade Commission. The Yami Yogurt Products, Inc., and an officer trading as the Internaticnal Yogurt Company have agreed to stop claiming that yogurt promotes digestion or intestinal hygiene, restores or insures good health, and is effective in preventing a wide variety of ailments and diseases. The Commission's action does not prohibit advertisements representing that Yami Yogurt "is a recommended dietary supplement for individuals suffering from certain intestinal or digestive disturbances."

* * *

HOW TO REMOVE FOOD STAINS from plastic dishes without using an abrasive that might scratch their surface is a problem that has troubled many homemakers. One foresighted manufacturer of a melamine plastic dinnerware provides the names of several brands of detergents or bleaches in which the stained plastic cup or other dish may be soaked to remove coffee and tea stains, although it is admitted that the discoloration may eventually resist removal. The commercial preparations suggested as safe and effective were: Ozo (Turco Products, Inc., Los Angeles 54); K.I.K. (Maid-Easy Cleansing Products Corp., Mount Vernon, N.Y.); and SAR-7 (Antiseptol Co., Chicago 30). Other compounds that have been suggested by other sources are: PB-9 Plasticware Bleach (Economics Laboratory, Inc., St. Paul 1); and Plastic Dip (Scott Detergents, Philadelphia 10).

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Washington, N. J.

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Phonograph Records

BY WALTER F. GRUENINGER

Please Note: The first symbol applies to quality of interpretation, the second to fidelity of recording.

Beethoven: *Sonatas Nos. 7* and *8*. Francescatti and Casadesus (violin and piano). Columbia ML 4861. $5.95. What a fine record this is! Two masterpieces brilliantly performed by two master musicians. It's a long time since Francescatti has sounded so right. **AA AA**

Brahms: *Academic Festival Overture* and *Tragic Overture*. Concertgebouw Orchestra under van Beinum. London LD 9038. $2.95. van Beinum knows the score, but recording is boomy, throaty. **AA B**

Haydn: *Symphonies Nos. 53* and *67*. Vienna Symphony Orchestra under Sacher. Epic LC 3038. $5.95. Seldom heard, sparkling symphonies. Sacher's conducting is sympathetic, precise, praiseworthy. **AA AA**

Kreisler: *String Quartet in A* & **Paganini:** *String Quartet in E*. Stuyvesant String Quartet. Philharmonia PH 107. $5.95. Charming, virtuoso violin pieces, supported by three additional string instruments. Sylvan Shulman, as first violin, carries the burden and does himself proud. The circle of enjoyment will extend far beyond chamber music fans. **AA A**

The Wonderful Waltzes of Richard Rodgers. Paul Britten and His Orchestra. MGM E 197. $4. "Carousel Waltz," "Oh What a Beautiful Morning," "I'm in Love with A Wonderful Guy," etc., played by a small orchestra and recorded with limited frequency range. **A B**

Scheidt: *Selections from Tabulatura Nova*. Noss (organ). Overtone Records LP 3. $5.95. Best of 5 releases by a new firm which draws heavily on Yale for its talent. In 5 selections from the 17th century Scheidt, we get not only the first of a series on masters of Baroque organ music, but symphathetic playing and outstanding recording of the 1951 installed Holtkamp organ of Battell Chapel. **AA AA**

Stravinsky: *Le Sacre du Printemps*. Pittsburgh Symphony Orchestra under Steinberg. Capitol P 8254. $5.70. Stravinsky's music for a ballet about human sacrifice finds its way into concert halls and on records rather frequently nowadays. The rhythm in this performance is less accented than I have heard and the forward drive less compelling. In other respects Steinberg and Capitol have done a praiseworthy job. . . .But what Steinberg lacks, Dorati and the Minneapolis Symphony offer in Mercury MG 50030 which is highly recommended for performance and will serve hi-fi fans as a demonstration record. **A A**

Verdi: *Aida* "Gia i sacerdoti (duet) and *Final Scene* (duet). Del Monaco, Stignani, Tebaldi. London LD 9077. $2.95. Del Monaco sings with too little subtlety, but the others are excellent. **A A**

Verdi: *Il Trovatore* (abridged). Soloists, Chorus, Netherlands Philharmonic Orchestra under Goehr. Musical Masterpiece Society MMS 2008. $2.50. (250 W. 57 St., New York City.) This society sells abridged operatic sets by mail. I have heard *Carmen*, *Marriage of Figaro* and *Il Trovatore*. The singers, unknown to me, for the most part are Dutch trained and probably young. The conductor in these sets is Goehr. Fidelity is quite satisfactory, surfaces are quiet. The performances never achieve the level of the best operatic sets available but *Il Trovatore* is my choice of the three. **B A**

Mahler: *Symphony No. 6* ("Tragic"). Vienna Philharmonia Orchestra under Adler. 4 sides, SPA 50/60, $11.90. From SPA Records, an enterprising Saratoga Springs, N. Y., firm, come half a dozen new releases of which this is the most likely to succeed. It's the only recording of a symphony rarely performed, partly because of the staggering size of the orchestration and partly, I suppose, because it takes 82 minutes to deliver its message. But Mr. Adler and the Vienna Philharmonia play it as though they loved it which is quite well, indeed, and those who want to explore and study the fringes of the standard orchestral repertoire may find it worth owning . . . .In the same family is Bruckner's *Symphony No. 3* which is better performed and no less well recorded by the same artists on SPA 30/31. **A A**

Tagliavini—Arias from the Opera (tenor). Cetra A50155. $5.95. Recorded before 1948, but fidelity is quite satisfactory. Big tenor scenes from *Tosca*, *Rigoletto*, *Falstaff*, *Barber of Seville*, etc. **AA A**

Vaughan Williams: *The Wasps* and *Old King Cole*. Philharmonic Promenade Orchestra under Boult. Westminster WL 5228. $5.95. Two suites of British music in a rather gay vein for so solid a composer. Best of a new batch of Westminster disks. Very well played and recorded. **AA AA**

Chansons de La Belle Epoque. Vols. 1 and 2. Five French singers. Vanguard VRS 7008 and 7011. $4 each. Songs of Paris in the gay 90's add up to good light entertainment. The vocal production of all these singers is not expert but they know the style. . . .Cut from the same cloth is *Germaine Montero Sings Songs of Parisian Nights* (Vanguard VRS 7005) which is better recorded than *Chansons* and sung no less well. . .and there's *Charles Trenet* (Angel ABL 64001) in which the celebrated night club singer does eight of his numbers in French, of course, which are superbly recorded. **A A**

Jam Session. Eddie Condon's *All Stars* and *The Rampart St. Paraders*. Columbia CL 547. $3.95. There's been an improvement in the fidelity of jazz records. You might try this one, best of a recent lot of Columbia releases and of its kind, fairly entertaining. *The Rampart* side is particularly well recorded. **AA A**

The Merry Yodeler. Austrian Folk Musicians. Vanguard GRS 7004. $4. Yodels and typical Austrian village peasant band. Lots of fun. **AA AA**

Music for Jennifer. Paul Weston and His Orchestra. Columbia CL 6281. $3. Light music from the motion pictures of Jennifer Jones played by an orchestra featuring strings. **AA AA**

* * *

The tunes of *Singtime Sacred Recordings* of Van Kampen Press, Inc., Wheaton, Ill., sound more like popular ballads than the sturdy melodies of the Hymnal. And the performance is in the style of popular balladeers. I have heard 8 records—10 inch 78 rpm selling for 89 cents each, though the selections are also available on LP and on 45 rpm. The performance, within the style, is recommended and so is the fidelity. Pressed on quiet shellac by RCA Victor. Begin with ST 1003. "Wondrous Love," sung by Bill Pearce and Dick Anthony; and "No One Understands Like Jesus," sung by Bill Pearce.

CORRECTION PLEASE: The order number for **Locatelli:** *Sonata in D* & **Frescobaldi:** *Toccata* & **Boccherini:** *Sonata in A* is Westminster WL 5243. It was incorrectly given in the April 1954 issue.

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OUR READERS WRITE:

Your Bulletins, both monthly and cumulative, have become essential yard sticks in our everyday lives and have certainly more than repaid our yearly subscription fee.
Subscriber, Corpus Christi, Texas

I have been a subscriber to Consumers' Research and have found it well worth while for a number of years. Now that I am stationed overseas I have to depend even more on your recommendations since all our merchandise must be ordered sight unseen.
Subscriber, Wake Island

A whole bunch of us read very closely your monthly research reports on new cars. As a matter of fact, we feel that your reports are the only trustworthy guidance available.
Subscriber, Park Forest, Ill.

Thank you for your very excellent advice that we have received previously. For the past seven years we have relied solely on your judgment, even ordered substantial items by telephone quoting the model number you listed, and have been completely satisfied.
Homemaker, Jackson Heights, N.Y.

Your magazine is a money saver.
Manufacturer's Representative, Peoria, Ill.

The work you do is invaluable to me as a consumer and your findings have often strongly influenced my choice of large and small items. I am sure that you realize how confused we consumers are by the welter of advertising claims with which we are daily assaulted.
Homemaker, New York City

We are recent subscribers to your fine Bulletin and find it an invaluable buying guide.
Homemaker, Omaha, Neb.

I have formed the habit of consulting the Bulletin before purchasing any article of value.
Subscriber, Gulfport, Mississippi

$4.50